University of Alberta

Identity, Self-sufficiency and Well-being: the Values of Beaver and Geese to the Moose Cree First Nation

by

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the

requirements for the degree of *Doctor of Philosophy*

Department of *Human Ecology*

Edmonton, Alberta
Spring 2005

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Abstract

This document underscores complexity of values and the centrality of the forest in lives of the Moose Cree First Nation. Beaver, geese and associated activities are part of health, social relations, the development of Moose Cree youth, links to the past and the future, and self-sufficiency. A human ecology approach offers a holistic approach to exploring Aboriginal non-timber values. Ethnography was the over-arching method used for the research. Over the span of a year in the community, data was collected through semi-structured and unstructured interviews, participation in a wide range of community events (e.g., feasts, gatherings and meetings), observation of a wide range of non-timber harvesting activities (e.g., hunting, trapping and gathering) and oral histories. The results of this research emphasize that the health of individuals, cultures, economies and forests are entwined; the sustainability of northern Ontario forest development rests on nurturing the whole relationship the Moose Cree have with their environments.

Acknowledgements

I am grateful to many people for their support throughout the process that has culminated in this document. It is impossible to thank all of the individuals who contributed to this dissertation.

I would like to express my deepest gratitude to my esteemed advisor, Dr. Naomi Krogman, for your patience, guidance, and support throughout this process. I would also like to thank Dr. Betty Crown, and Dr. Nancy Gibson for guiding my research, and Dr. Eric Higgs, and Dr. Dr. Ellen Bielawski for your thoughtful insights and stimulating questions.

I would like to send my thanks to the members of the Moose Cree First Nation, who accepted me into their community, and shared their experiences with me.

The following research would not have been possible without the financial support from the following: Killam Scholarship Committee of the University of Alberta, Aboriginal Capacity and Aboriginal Research Environments (ACADRE), Canadian Circumpolar Institute, Department of Indian and Northern Affairs (Northern Scientist Training Program), Sustainable Forest Management Network, and Dr. A. Tanner.

A special thanks to my parents and grandparents for their unfailing support and encouragement.

Finally, I would like to thank Cat. My gratitude to you is beyond description.

Preface

After two days by air, rail and water, I stepped out of a freighter canoe onto a dock on Moose Factory Island on August 2, 2002. My journey began on the plains of the prairies. I flew over the Prairie patchwork of farms and fields, and finally landed in Toronto, the most populous metropolitan area in Canada. I had few difficulties transferring to the train station in the middle of the city during rush hour from the airport. As I travelled north through Toronto and beyond, I was struck by the density of the settlements. I travelled through the night and arrived in Cochrane just in time to watch the sun rise. I boarded the Little Bear-Ontario Northland Railway serving Cochrane, Fraserdale, Coral Rapids, Moose River, and Moosonee. As the train left the station, my fellow passengers settled in to sleep, read, watch a movie or chat with one another while I was mesmerized by the landscape. Seeing the thin, gnarled pine trees, I was reminded of Tom Thomson's paintings such as The Jack Pine (1967). Prior to this time, I had only seen these trees in museums and photographs. The forestscape continued for the seven hour journey with a few notable exceptions, i.e., the hydroelectric dam at Fraserdale and the Moose River crossing where the train stopped to drop-off a group of tourists with kayaks and pick-up a Moose Cree family. I made the last part of my journey from Moosonee to Moose Factory by freighter canoe. I found the spray of the water, the cooling darkness of night, and the open space welcome after the confined spaces I had inhabited since leaving my home.

The day after I arrived I was scheduled to meet with the Lands & Resources Secretariat (LRS or Secretariat) of the Moose Cree First Nation. I was excited, and a bit nervous, about speaking with this group that included a youth, two elders, the Deputy Chief, two members of the MCFN Council and three members of the Department of Lands and Resources (DLR). The objectives of the DLR include the following activities: "act as an advisory body and to make recommendations to Chief and Council; develop strategies and policies in conjunction with the goals and objectives of the MCFN; to monitor and evaluate existing and proposed activities on MCFN traditional territories; to serve notice to existing and proposed users of MCFN territories; to serve notice to existing and proposed users of MCFN interests and concerns; and to make recommendations on the use, protection, and preservation of MCFN traditional territory"(Moose Cree First Nation, n.d.). The DLR is involved in the 'Moose Cree Forest Knowledge Network', a project funded by the Sustainable Forest Management Network headed by Dr. Adrian Tanner, that is aimed at "supporting the process of Aboriginal community (landuse and forestry) planning for sustainable development, in the context of impending industrial forestry" (Sustainable Forest Management Network, n.d.). After this meeting, I was invited by the LRS and Dr. A. Tanner to work with them as a researcher on the project. Documenting and describing the values of non-timbers would complement their landuse mapping and planning.

I spent the day after the meeting wandering around Moose Factory Island to determine whether I could reside there for a year to conduct my research. On this hot, dusty and bug-infested summer day, I was struck by the prevalence of goose icons in the community, e.g., on the MCFN flag. I spoke with a teacher sitting on the dock who was preparing for the start of the school year. She related to me that they start the school year earlier than most other teachers in the province because the schools close for goose hunt in the spring and fall. As I resumed my wanderings, I passed by the Hudson Bay Cemetery, a large beaver press, and noted that the majority of people's backyards contained tepees.

I returned in September, 2002. One of the first choices that I made with the LRS related to the specific non-timbers that I would focus my research on over the next year. The surrounding wetlands offered many to choose from fish, lichen, bark, grasses, land and aquatic plants, animals, and waterfowl. I suggested beaver and geese to the Secretariat based on my preliminary discussions with people in the community about their harvesting activities, the literature on the Moose Cree, and the concerns that members of the LRS voiced during a meeting. The Secretariat readily agreed with these non-timbers as they felt that these were two non-timbers of importance in their community and contribute to their landuse plan. At a meeting in late September, the LRS requested that I include women in my interviews as previous studies focused on men and the knowledge of hunters.

At the outset of my research process, members of the DLR and the SFMN-funded project voiced interest in gathering information about berries, e.g., harvesting, trading, and uses. The reader will have noticed that berries are not one of the non-timbers included in the title of this document. I did talk to people about this activity but chose not to include, or analyze, the information for a number of reasons. During the first interviews that I completed, I realized that the harvesting of berries was very different than hunting geese or trapping beaver. People, it seemed, harvested berries in conjunction with other activities, i.e., goose hunting, making it difficult to determine whether values that people described related to the berries or the other activities. Further, I was unable to participate in berry harvesting because the timing coincided with other community activities described in this document.

After my initial discussion with the First Nation, I returned to my university with a letter to support my human ethics application. History is filled with examples of unethical cross-cultural research that has lead to the appropriation of knowledge, and done irrevocable harm to individuals and their cultures. Ethnographers have been criticized as "mere journalists, tabloid journalists at that, providing interesting details of the exotically unusual, the peculiar, odd and strange, copy that titillates but does not inform" (Brewer, 2000, p. 15). Equating ethnographers with tabloid journalism seems minor in light of criticisms that ethnography has been, and is, used by global powers as a form of espionage (Hutnyk, 1998; Lee, 1995). However, the ramifications of both, e.g., invasion of privacy, misrepresentation and misuse of information, are real. This potential for harm lingers in the University conscious and guides the decisions of human ethics committees. The issues related to Intellectual Property Rights (IIPR) influenced my study in the way that I was unable to include, or pursue any information related to medicines. After building trust within the community, I did gain access to medicinal information related to beaver and geese and other NTFPs but did not include it in this document. In November, 2002, I received ethics approval from my faculty to engage in data collection in Moose Factory.

I returned to the First Nation with ethics approval from my faculty and began the process of negotiating an ethics agreement with the Moose Cree. I have included this agreement in Appendix 2 and discuss this in Chapter 3. However, I would like to briefly refer to the confidentiality statement, i.e., "This principle recognizes that the community and individual participants, at their sole discretion, have the right to exclude from publication and/or to have kept confidential any information concerning their culture, traditions, mythologies, or spiritual beliefs". The implications of this agreement for my research are related to the omission of a discrete discussion about Moose Cree spirituality in this document.

Spirituality is a complex subject matter that is, in light of my agreement, best left for individual members of the MCFN to articulate. Waldram's (1993) "Aboriginal Spirituality: Symbolic Healing in Canadian Prisons" illustrates the complex and multi-faceted nature of spirituality within a community. Organized religion is one path of spirituality, such as the Anglican, Roman Catholic, Pentacostal, and Evangelical churches on Moose Factory Island. The other spiritual path, as described by Waldram (1993), includes sweat lodges, teachings about the medicine wheel and counseling with elders. The Moose Factory Healing Centre employs elders, offers counseling and uses the medicine wheel for guidance. Forest spirituality of the Cree relates to the "understanding of how and why the land provides for its human inhabitants" (Niezen, 1998, p. 25). In Chapter 4, I discuss the reciprocal relationship between animals and humans. This principle of reciprocity is grounded in spiritual considerations. For further discussion of ecological or forest spirituality, Tanner (1979) provides an excellent account in *Bringing Home Animals: Religious Ideology and Mode of Production of the Mistassini Cree Hunters*.

In order to undertake and complete the program of research described in these pages, I had to balance the requirements of the MCFN, individual participants, the University of Alberta, the Departments of Human Ecology and Graduate Studies, my supervisory committee, my family and myself. I made choices, e.g., themes of values and non-timbers that formed the research focus, within the social, political, cultural and economic circumstances of my lives in Edmonton and Moose Factory. Research is a process of negotiation; this document is a result of the dialogues that I participated in whether they took place in the University, in the community or within my own experience.

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CHAPTER 1 INTRODUCTION

Introduction

Aboriginal Peoples have responded in different ways to commercial forestry in their traditional territories. For example, the Haida Gwaii influenced the establishment of the Gwaii Haanas National Park Reserve and Gwaii Haanas (Haida Heritage Site) in the Queen Charlotte Islands to protect their lands from heavy logging while the Tl'azt'en First Nation managed a Tree Farm License in British Columbia. The Moose Cree First Nation (MCFN) is currently facing the spread of forestry operations into their traditional territory. In a document entitled "Balancing Interests: Protecting Traditional Lifestyles While Encouraging Sustainable Development", the Department of Lands and Resources of the MCFN (2003) refers to the upcoming commercial forestry into their traditional territory,

> For thousands of years we, the Moose Cree people, have valued the forests of our territory. We have travelled throughout our forest lands by snowshoe, and on the rivers, streams and lakes. We have respected and taken care of all our forest resources- the trees, the small plants, the birds, the fish and the animals.... Today we continue to use, to value and to care for our forests. But over the past twenty years, we have found that our ability to do so has increasingly been compromised by industrial forestry activities.

Peterson (2000) cautions that "before we conserve forests, before we establish projects for building environmental and social sustainability... we must first take very seriously people's beliefs about the environment and about spiritual forces that affect their relationship to the environment" (p. 13). The beliefs and relationships that Peterson (2000) writes about include the forest values discussed by the MCFN in the opening statement. An exploration into the values that the Moose Cree associate with 'trees, the small plants, the birds, the fish and the animals', or non-timbers[1], is timely in light of the spread of commercial forestry. As non-timber harvesting activities are a major part of the Moose Cree culture, this paper describes the research that explored and documented the values of select non-timbers, i.e., beaver and geese, to members of the First Nation.

Purpose of the Study

The overall purpose of the research is to explore and document non-timber values (NTVs) of the Moose Cree First Nation. This objective encompasses three specific research objectives. The first objective is to document the values of non-timbers held by community members. The results of NTFP valuation studies are often presented in terms that are inaccessible to research participants and policy makers, e.g., quasi-option values[2]. In this study, non-timber values are recorded in the participant's own terms. An exploration of the existence of common values within the community is the second objective of the research. The values of individual community members are analyzed for shared elements to determine the existence of a core of non-timber values. The third objective is to develop a model based on a human ecology approach and determine the appropriateness of this approach to valuing non-timbers. This approach to conceptualizing NTFP values is respectful of Aboriginal beliefs and represents a potential for exploring values "that are beyond the scope of economics" (McKenney & Sarker, 1994, p. 47). The results of the research fill a gap in the Aboriginal NTV literature.

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[1] In this research, non-timbers are defined broadly as all goods and, or services obtained from a forest except timber (Adamowizc, 1992). Non-timbers include both the tangible, e.g., wildlife and flora, and the intangible such as appreciation, recreation and preservation. The term non-timber forest product (NTFP), used throughout this document, also refers to everything found in the forest except the trees. NTFP values are often defined in terms of economic worth or the value of a commodity in exchange. A number of authors (e.g., Bengston, 1994; Brown, 1984; McFarlane & Boxall, 1999) suggest that value is broader than economic worth and an individual's preference for an object. Based on Andrews & Waits' (1978) interpretation of value, it is defined for this research as the significance of an object to its valuer. An object, according to a human ecology perspective, in its broadest sense includes "not only inanimate objects, but also events, ideas, states, and animate objects, including human beings" (Sontag & Schlater, 1995, p. 4). This definition of value includes economic worth, social and cultural meanings of non-timbers and non-timber-related experiences. The use of the term 'valuer' reflects the fact that value can be biocentric, or independent of humans, e.g., the rights of animals to exist. In this document, I refer to NTFPs in cases where this term is utilized by specific authors. I use non-timber value or NTV in my own discussion to reflect the tangible and intangible aspects of forests.

Background: A Brief History of Moose Factory and the Moose Cree First Nation

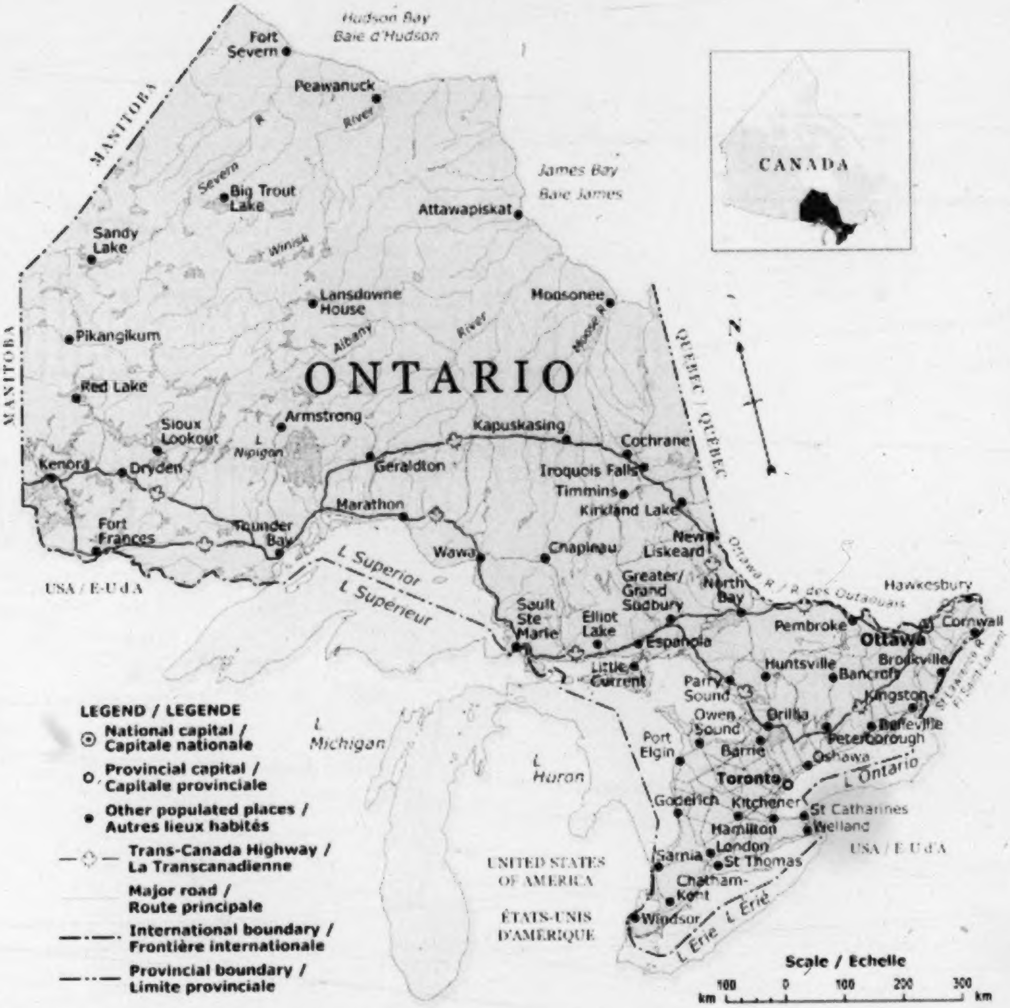
The 'urban centre' of the MCFN, i.e., Moose Factory[3], is located on an island at the mouth of the Moose River and James Bay (see Figure 1) in northern Ontario. The latitude and longitude of the island are 51° N and 80° W respectively. Timmins, the closest urban centre, is 300 kilometres to the south. Moose Factory, designated Moose Factory Indian Reserve No. 1, is 3.08 km² and occupies the northern portion of the island. As a result of Treaty No. 9 signed in 1905, the Moose Factory Indian

---

[2] A quasi-option value is "that of conserving a site in the expectation that, over time, its real value will become clearer" (Green & Tunstall, 1991, p. 128). An example of quasi-option value is an archaeological site.

[3] Moose Factory refers to both the village and the island.

Figure 1 Location of Moose Factory, Ontario
(Permission to reprint from the Atlas of Canada)


Hudson Bay
Baie d'Hudson
James Bay
Baie James
CANADA
ONTARIO
MANITOBA
QUEBEC / QUÉBEC
USA / E-U d'A
UNITED STATES OF AMERICA
ÉTATS-UNIS D'AMÉRIQUE
N
Fort Severn
Peawanuck
Severn R
Big Trout Lake
Winisk River
Sandy Lake
Attawapiskat
Lansdowne House
Albany River
Moosonee
Moose R
Pikangikum
Red Lake
Sioux Lookout
Armstrong
L Nipigon
Kapuskasing
Cochrane
Kenora
Dryden
Geraldton
Iroquois Falls
Timmins
Kirkland Lake
Fort Frances
Thunder Bay
Marathon
Wawa
Chapleau
New Liskeard
L Superior
L Supérieur
Ottawa R / R. des Outaouais
Sault Ste Marie
Elliot Lake
Greater/Grand Sudbury
North Bay
Espanola
Little Current
Pembroke
Hawkesbury
Ottawa
Cornwall
Brockville
Huntsville
Bancroft
Parry Sound
Kingston
St Lawrence R / Fl Saint-Laurent
Owen Sound
Orillia
Belleville
Peterborough
Port Elgin
Barrie
Oshawa
L Michigan
L Huron
Toronto
L Ontario
Goderich
Kitchener
St Catharines
Hamilton
Welland
London
Sarnia
St Thomas
Chatham-Kent
Windsor
L Erie
L Érié
LEGEND / LEGENDE
National capital / Capitale nationale
Provincial capital / Capitale provinciale
Other populated places / Autres lieux habités
Trans-Canada Highway / La Transcanadienne
Major road / Route principale
International boundary / Frontière internationale
Provincial boundary / Limite provinciale
Scale / Echelle
100 0 100 200 300 km

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Reserves No. 1 and No. 68 were set aside for the Moose Cree First Nation. The No. 68 reserve is 168.83 km² and approximately 8 km upriver of Moose Factory. The centre of the island is provincially-owned and home to the Mocreebec[4], a group of about 400 Aboriginal Peoples originally from Quebec. The southern portion of the island is under the jurisdiction of the Canadian Federal Government. The southern portion of the island is the location of the Weeneebaykon Hospital (formerly the Moose Factory General Hospital) built in 1950 in response to the tuberculosis epidemic sweeping the Canadian North. Originally, the Ministry of Health was responsible for the south part of the island but is in the process of turning over the hospital and lands to the Moose Cree First Nation.

Travel from Moosonee on the mainland is by boat in the summer, ice roads in the winter and helicopter during the ice freezing and breaking-up periods (early spring and late fall respectively). Moosonee is accessible by train and by the Cree-owned commercial airline AirCreebec established in 1980.

Moose Factory lies in an area known as the Hudson Bay Lowlands. The lowlands are flat plains at sea level that border James Bay. The height of the plains increases to 200m at the highest point near the southern boundary of the territory. The bedrock in the Hudson Bay Lowlands is "composed of carbonate sedimentary formations… (that) date primarily from the Silurian[5] period" (Baldwin, Desloges, & Band, 2000, p. 14). The surficial geology is composed of organic deposits left by the ice that covered northern Ontario up until 8,000 years before present (Baldwin et al., 2000).

---

[4] The Mocreebec are not signatories of Treaty No. 9 or any other treaty.
[5] $438x\ 10^{6}$ years before present date.

In terms of hydrology, Moose Factory is part of the Hudson and James Bay Basin. The three major watersheds in the province are the Great Lakes, the Nelson and Hudson Bay (Ontario Ministry of Natural Resources, n.d.). The watershed is so named as all of the water features in the basin, i.e., the northern part of the province, drain into James Bay. The Missinabi, Kapuskasing, Groundhog, Mattagami, and Abitibi Rivers join to form the Moose River.

Moose Factory is an ecological transition area situated between the dense boreal forests of the south and Northern Tundra. The forestscape, classified as boreal plains or boreal barrens, is home to 15-19 tree species. These species include american mountain ash, trembling aspen, balsam willow, larch, balsam fir, eastern white cedar, jack pine. The area around Moose Factory is dominated by intermittent patches of black spruce and tamarack. Areas of dense forest cover with high forest patch density (0.30-0.40/ha) surround Kesagami Lake to the southeast of Moose Factory. These dense stands of trees are of interest to the forestry companies operating in the area, e.g., Tembec, as the most cost efficient for commercial harvesting.

Wetlands cover approximately 75% of the area near Moose Factory[6].

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[6] I use the term non-timber instead of wetland good, or any other similar term, for three reasons. First, the term non-timber locates this study within the forestry literature. Second, beaver and geese are not unique to wetlands and use of the term 'wetland good' would be misleading. Finally, the whole of the Moose Cree territory is not wetlands and using this term to describe beaver and geese in the northern, but not the southern, part of the territory would be confusing.

Wetlands are defined as "land that is saturated long enough to promote wetland or aquatic processes as indicated by poorly drained soils, hydrophotic or water tolerant vegetation, and various kinds of biological activity which are adapted to a wet environment" (Whitfield & Hall, n.d., p. 7). Bogs, marshes, fens and swamps are types of wetlands. "Due to their importance to waterfowl and many other wildlife species, wetland areas can be considered to be "critical habitat" (Hickie, 1985, p. 7).

The wetland habitat provides breeding grounds and food source for a variety of waterfowl. Lesser snow geese, the Southern James Bay Population (SJBP) of Canada Geese and the Giant Canada Goose moult on the Akimiski Island Colony (Service, 2003). The area around Moose Factory "has three goose species, about ten duck species of importance, two loon species, as well as other migratory birds" (Berkes, 1982, p. 26).

The woodland is home to caribou, moose, bears, beaver and in the winter a few stray polar bears may be seen on the frozen Moose River. The southern edge of woodland caribou migration is declining due to habitat disturbances (Voigt, Baker, Rempel, & Thompson, 2000). One source of habitat disturbance is commercial forestry. Increasingly, the caribou are found north of Kapuskasing in the Moose Cree territory. In 2002, the caribou were considered a species at risk and labelled 'threatened'.

Table 1 presents the minimum, maximum and mean temperatures for Moosonee. The temperature range for this area is from 22.2°C in the summer to -27°C in the winter. Environment Canada (n.d.) reported that between 1971 and 2000

Moosonee received a yearly average of 493.9 mm of rainfall. Of this rain, 101.3 mm fell in July. July and August are the only months during which no snow fell. January received 40.8 cm of snow and the yearly average is 212.9 cm (Environment Canada, n.d.).

Table 1 Minimum, Maximum and Mean Temperatures in Celsius for Moosonee, Ontario (Environment Canada, n.d.)

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Maximum	-14.2	-11.0	-4.2	3.7	12.7	18.8	22.2	20.8	14.6	7.6	-0.8	-10.8
Minimum	-27.0	-25.7	-19.1	-8.6	-0.3	5.0	8.5	7.9	4.1	-0.8	-8.6	-21.7
Average	-20.7	-18.4	-11.7	-2.4	6.2	11.9	15.4	14.4	9.4	3.4	-4.7	-16.3

Prior to the European incursion into Canada, the Swampy Cree[7] were hunter-gatherers who subsisted on wildlife and fish. The migration of the hunting groups depended on the season and the location of wildlife (George, Berkes, & Preston, 1993). Geese, caribou and moose hunting took place during late spring and early summer (Bishop, 1984). Fishing for pike, trout, and sturgeon took place in late August. Based on comments of Henry Hudson who wintered at the mouth of Rupert's River from 1610 to 1611, Thomas Button (1612-1613 on Nelson River) and residential Jesuits, the Cree did not winter on the coast (Bishop, 1984) but travelled inland.

In 1673, the Hudson's Bay Company (HBC) established a fort, or factory, at the mouth of the Moose River. The present name of Moose Factory is derived from the combination of its location on the Moose River and the presence of the HBC Factory. Due to the high volume of fur trading, Moose Fort became the most important post in James Bay during the 1680s (Arthur, Chapman, & Massey, 1949). In 1686, Moose Fort was captured by an expedition commanded by Chevalier Pierre de Troyes and remained in French possession until it was returned under the Treaty of Utrecht (1713). In 1730, Moose Fort was re-established and stood for five years until a fire necessitated a rebuilding of the fort.

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[7] Also referred to as the Omushkego or West Main Cree (Honigmann, 1981).

Semi-permanent relations were established between the Cree and HBC employees at Moose Fort. Individual Cree supplied the post with fresh game and fish in return for goods such as arms, munitions, knives, hatchets, foodstuffs (e.g., flour, tea and sugar) and clothing (Honigmann, 1981). Those Cree who remained within a close distance of Moose Fort year round were known as the home guard. The home guard consisted of the sick and elderly, the Aboriginal wives and children of HBC employees (Judd, 1983) and those who were persuaded to remain year round to supply the fort with fresh game and security (Ontario Native Affairs Secretariat and Ministry of Citizenship, 1992).

In the twentieth century, "the 'locus' of home gradually changed from the bush to village settlements" (Ohmagari & Berkes, 1997, p. 202). The tuberculosis epidemic that swept the North resulted in the construction of the Moose Factory

Indian Hospital[8] that would serve as a tuberculosis centre for James and Hudson Bay communities. This illness meant that many people remained in town over the winter trying to find work so that they could be close to their ill family members.

The closer ties with the HBC and missionaries in the village were major influences in the adoption of English as the first language spoken in Moose Factory. The "l", "r", and "n" are the three Cree dialects spoken in northern Ontario. The "n" dialect is the most common and is the primary language of Cree residing on the northwestern coasts of the Hudson and James Bays. The "r" dialect spoken by Cree living near Kesagami Lake became non-existent as the speakers moved into other communities (Spence, 1996). Moose Factory and Kashechewan are the two Cree communities using the "l" dialect of Cree. Spence (1996) notes that these communities "are largely of Anglican domination which preferred to adapt an eastern syllabic style of writing" (p. 1). Syllabics were introduced by a Wesleyan missionary in the middle of the nineteenth century.

Reverend George Barnley is credited with introducing Cree syllabics after his arrival in Moose Factory in 1840. Barnley's ethnocentric notions regarding the Cree, i.e., laziness, practice of polygamy, and spirituality, guided his "program of reform (aimed at) Native motivation, mental capacity, ingratitude, lack of cleanliness, domestic life, liquor and what he called superstitions" (Long, 1986, p. 315). Although syllabics are still in use by the Moose Cree, Barnley's influence was shortlived as evident in the following statement to Bishop John Horden (Diocese of Moosonee) by a woman named old Eve: "some attended to what was told them, but a great many merely laughed at him" (Long, 1986, p. 323). Tanner (1979) notes that, prior to the introduction of residential schools and the movement towards year-round residence in villages, the Cree could behave as they liked in their camps and conform to "Christian" standards while at the posts.

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[8] Now called Weeneebayko General Hospital.

Residential schools were one aspect of the 'Christian' reform of First Nations peoples[9]. As a result of the Canadian government's policy of mandatory attendance for all children between the ages of 7 and 15 (Indian Residential Schools Resolution Canada, n.d.), many children grew up away from the bush. In Moose Factory, the Bishop Horden Memorial School[10] was established in 1907 and remained open until 1963.

The Cold War altered the landscape surrounding Moosonee in the 1960s. The Royal Canadian Airforce Moosonee Station was manned by 23 people at the height of activity (Department of National Defence Canada, n.d.). The radar station was established as part of the Canadian-American North American Air Defence Command (NORAD) Pinetree Line. As one of 35 stations in the line, the RCAF-Moosonee was responsible for providing an early warning defence system to counter the threat of a Russian air attack (Department of National Defence Canada, n.d.). The station was closed in 1975.

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[9] A number of accounts have been published about life in the residential schools in Canada (see for exampleGrant, 2004; Jack, 2000; Knockwood, 1992).

[10] Also known as Moose Factory Indian Residential School and Moose Fort Indian Residential School.

The 1920s and 1930s witnessed many changes in northeastern Ontario transportation patterns. The first plane arrived in 1920 (Barnes, 1996). A few years after his historic Paris-New York flight, Charles Lindberg landed in Moose Factory with Anne Lindberg his wife and co-pilot. In 1932, the last spike was driven in the Temiskaming and Northern Ontario Railway extension line from Cochrane to Moosonee. Goods were no longer brought via Hudson and James Bay to the Hudson Bay Company in Moose Factory. The train provided a more cost efficient and faster method to ship goods and people to the northeastern settlements. The HBC district office moved to Winnipeg and MF reverted to a fur trading post (Barnes, 1996). The coming of the trains and planes to Moose Factory ended the years of relative isolation.

The total membership of the Moose Cree First Nation is 3,397 including 1,490 who live on the Moose Factory Island Reserve (Department of Indian and Northern Affairs, 2004). The distribution of men and women is nearly equal. The percentage of the population under the age of 19 is 44, 41 % of the First Nation is between the ages of 20 and 50 and the remaining 15 % is between the ages of 51 and 90 (Woodman & Ghebremichael, 2000). According to Stephenson (1991), four or five people was the average size of a household in Moose Factory.

Woodman & Ghebremichael (2000) note that 23.9% of the population 25 years of age or over has less than grade nine education while 34.2% of same age has high school diploma or higher. The only secondary school on Moose Factory opened in 1997. The fact that youth had to attend school in Moosonee, Timmins or Cochrane likely had a negative effect on the levels of educational attainment. Currently, youth living on-reserve attend school in Moose Factory while the remaining youth attend the secondary school on Moosonee.

Natural resources and services form the basis for the local economy. The economy is mixed and includes wage labour, government transfers and traditional harvesting. The largest employers are the First Nation and the Weeneebayko General Hospital employing 213 and 227 respectively. In 2000, construction and tourism provided 33 people with seasonal employment (Woodman & Ghebremichael, 2000). Trapping is the principle industry of Moose Cree First Nations members (Ontario Native Affairs Secretariat and Ministry of Citizenship, 1992). Other individuals are employed in the tourism industry (i.e., hotels, tour companies and fishing/hunting guides), the service industry, transportation (i.e., taxis and water taxis) and by the Weeneebaykon hospital. For some Moose Cree, their wages support forays into bush to harvest geese, large animals (i.e., caribou, moose), fishing, small game and trapping (George et al., 1993).

The Royal Commission on Aboriginal Peoples (1996) reported that 64% of First Nations people living on reserve made less than $10,000. In the Mushkegowuk region[11], the average household income was estimated at $25,500 (Berkes, 1994; George, Berkes, & Preston, 1996). In 2000, 359 MCFN members received transfer payments with an average government income of $9,481 (Woodman & Ghebremichael, 2000). Transfer payments included veterans' pensions, employment insurance, social assistance, old age security and Canadian pension plan.

Moose Factory occupies a unique position historically and geographically. Moose Factory was both an isolated community in northeastern Ontario with access limited and a community that served as headquarters to the HBC. The history of the Moose Cree, like other Cree Nations in northern Ontario, is "characterized by conscious and deliberate attempts by the state to bring the Cree under non-Native control" (Cummins, 1999, p. 98). In the current climate of devolution of responsibility to communities and local governments, the Moose Cree are working towards self-reliance and self-determination.

Perception of Territory

Before the arrival of the Europeans in Canada, "Aboriginal territories were neither formally owned nor sold. Stewardship and occupancy rather than ownership were the overriding themes" (National Aboriginal Forestry Association & Wildlands League, 2003, p. 15). Tanner (1986) suggests, albeit hesitantly, that the term usufruct applies to the Aboriginal relationship with the land. However, the term implies that an owner of the land, or resources exists beyond the Aboriginal individuals and families. As the Moose believe that the land was not owned, it is

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[11] This refers to the Cree communities on the west coast of James Bay and in the interior of Ontario.

more appropriate to state that they occupied and acted as stewards of an area of land adjacent to the southern edge of James Bay.

Trapping groups, composed of a number of closely related families, returned to the same trapping areas every winter. The boundaries of the trapping grounds were unmarked and usually followed geographical features, e.g., watersheds. An *okimah* was the head of this group of approximately ten to thirty people (Hansen, 1989). The functions of the *okimah* included providing guidance for social relationships within the group, stewardship of the area, and the distribution of hunting/trapping areas within group (Berkes, George, Preston, & Turner, 1992). Conflict resolution, redistribution of food, and advising on a variety of matters were aspects of the social role of the *okimah* (Berkes et al., 1992).

In 1932, John M. Cooper compiled a map of Northern Algonquian[12] 'family hunting grounds' that were located around James Bay. Cooper's map[13] denotes family hunting grounds circa 1880 for Moose Factory, Albany and Rupert's House. A few concerns about the map include the fact that areas and major waterways of northern Ontario had not been mapped by the 1930s (Flannery, 1986), major geographical points are absent, i.e., the Ontario-Quebec border, and the scale of the map is inaccurate. Despite the cartographic errors, the map gives a sense of the area occupied by the First Nations of James Bay before the Treaties.

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[12] This term refers to the language group that includes Moose Cree.

[13] As I was unable to obtain permission to reproduce this map, refer to Flannery (1986) "Figure 2: Hunting Ground Distributions: Albany, Moose-Kesagami & Rupert's House Bands, crica 1880" (p. 141).

The boundaries of the Moose Cree territory are not public knowledge, at the request of the MCFN, and I was not given permission to reproduce this MCFN map in my dissertation. I can indicate, however, based on Cooper's map their traditional territory currently includes a number of provincial parks, New Post First Nation Reserve, the Ontario Northlands Railway and adjacent lands, a series of hydroelectric dams, the villages of Moosonee and Fraserdale, and a vast tract of Crown land.

Taykwa Tagamou First Nation, formerly New Post, relocated from their reserve west of the Abitibi Hydroelectric Generating Station in the 1980s to an area near Cochrane. The Taykwa Tagamou are members of the Mushkegowuk Council which is a body that represents Cree residing on the western shores of James and Hudson Bays (Mushkegowuk Council, n.d.). The six other members of the Mushkegowuk Council are Attawapiskat, Kashechewan, Fort Albany, Chapleau, Missinabie and the MCFN. The council provides a mechanism for discussion and resolution of any disputes arising within the membership, e.g., related to land use.

At least five departments of the Ontario Government are responsible for areas within northeastern Ontario. On the Mattagami and Abitibi Rivers, Ontario Hydro is responsible for the Harmon, Kipling, Little Long, Lower Sturgeon Falls, Wawatin, Abitibi Canyon, and Otter Rapids Generating Stations. Kesagami Wilderness Park, Little Abitibi Natural Environment Park, Tidewater Natural Environment Park, Adam Creek Nature Reserve, Sextant Rapids Nature Reserve, Coral Rapids Nature Reserve, Williams Island Nature Reserve are located within the Moose Cree traditional territory and are governed by the Ontario Ministry of Natural Resources Ministry of the Environment. The Ontario Northland Railway is an Operational Enterprise of the Province of Ontario. The southern portion of Moose Factory Island is currently under the Ministry of Health.

In 1947, the introduction of the Game and Fish Act by the Government of Ontario, Department of Lands, Forest and Mines, established a registered trapline system throughout the province. Prior to this date, trappers in northern Ontario did not require a license. The system was instituted to address circumstances such as the following reported by Indian Agent J. P. Lockhart to the Fort Frances Agency:

> Trapping grounds are allocated by permit for specific areas and the permit holder can exclude trespassers the same. I [Indian Agent J. P. Lockhart] had one case brought to my attention, where an Indian had been using a certain trap line for the past ten years. A White man received a permit for this particular ground and the Indian was forced off (in Hansen, 1989, 26).

Ironically, at least two non-Aboriginal trappers currently hold trapline permits for areas in the centre of Moose Cree territory.

The community response to 'outsiders' in the community is, as it has been historically, mixed and dependent on the aims of the individual or group. Prospectors and poachers, whether of diamonds or beaver, are viewed with mistrust. Many participants related stories of the damage done by outsiders ranging from explosions in the bush to poisoning whole creeks and the surrounding area in the pursuit of beaver pelts. Those individuals, e.g., doctors, teachers and even researchers, who are considered to be contributing to the well-being of the MCFN are accepted as part of the Moose Factory community.

The tripartite division of Moose Factory Island along departmental lines within the government reflects the complexity of issues related to land. The current reality of the Moose Cree territory is an amalgamation of the Aboriginal perspective on occupancy, European notions of land ownership, the *okimah* system, and registered traplines. According to Smith (1998), "traditional territories are those lands which have been and are currently used by Aboriginal communities. Some of this land may be 'Reserve' land…but much of it may also be 'Crown' land" (p. 7).

Policy Environment

The Canadian government's vision in regards to forestry development is evident in the following statement: "The future of the forest sector rests on a multi-faceted coordinated approach by all levels of government and stakeholders among others the integration of Aboriginal and local community forest values; increasing attention to non-timber products and uses…" (Canadian Forest Service, 2002). This view represents the culmination of two shifts in the mainstream approach to forest management in Canada. First, the perspective of Aboriginal peoples, historically excluded from forest management (Smith, 1998), is underscored as making a potentially significant contribution. The second shift refers to the movement beyond focusing solely on timber yields to consider multiple values and uses of the forest. The consideration of multi-value forest use is important in northern Ontario with the introduction of the Ontario Forest Accord that reversed the previous position of the Ontario Ministry of Natural Resources (MNR) banning commercial forestry north of the Area of Undertaking (AOU) in Ontario (see Figure 1). Commitment twenty-four of the Accord states that development of areas north of the AOU would be undertaken "with full agreement of affected First Nations communities". Moose Factory, residence of the Moose Cree First Nation, is one of the communities affected by the policy change. In preparation for future discussions with the Ontario government, the Moose Cree First Nation is creating a land management and forest development plan for their traditional lands.

Significance of the Study

Ranging from the practical to the theoretical the research findings are significant in a number of ways. The findings are applicable for forest managers, industry, policy makers and the Moose Cree First Nation. The holistic valuation of NTVs, the use of a human ecology approach, the use of the findings for land use mapping and multi-value forest management are discussed below.

The first significance of this research relates to a holistic valuation of non-timbers. The majority of non-timber valuation studies in the published literature employ economic valuation methods. Many values, e.g., sacred and bio-centric, are "beyond the scope of economics" (McKenney & Sarker, 1994, p. 47) and, therefore, have not been given adequate consideration. Further, identity, intra- and inter-generational relationships, and individual and community networks may be under-realized as a value of non-timbers. The project contributes to the practical knowledge of the potential range of non-timber values in the research communities. This contribution is significant in light of the absences of Aboriginal non-timber values and ethnographic non-timber valuations in technical forestry literature.

Economic valuation methods are the most common techniques for determining the values of NTFPs (see Chapter 2 for a more detailed description and discussion). The research project provided the circumstances to determine the applicability of a human ecology approach. The novel application of the approach was successful in the case of non-timber values of the MCFN.

Finally, increasing attention is given to managing forests for multiple values by all levels of Canadian government. The literature review (see the following chapter) demonstrates that the focus of previous forest value studies has been regional (i.e., B.C., Ontario and Alberta) and on limited segments of the population such as recreationists and hunters. The NTFP values of Indigenous peoples have not received much attention in previous studies. In the absence of documentation regarding NTFP values of many segments of society, multiple-value forest management will not be achieved. The findings of this research have policy implications because a broader understanding of forest-based values is seen by government agencies, academics, and community members as central to sustainable forest management.

The remainder of this document is divided into four chapters. The literature review in the following chapter focuses on non-timber forest product values and valuation methods. The third chapter outlines a human ecology approach and argues, based on my work with the Moose Cree First Nation, that this approach is appropriate for exploring Indigenous forest-based resource values. Further, the methods of data collection and analysis, ethical implications and personal reflections on the research process are also described in the third chapter. The research findings and discussion presented in chapter four include seven values of beaver and geese to members of the MCFN. In the concluding chapter, I will focus on the broader policy implications of the research and suggested directions of future research in the area of Aboriginal non-timber values.

CHAPTER 2 LITERATURE REVIEW

Introduction

The theoretical construction of 'value' is a multi-disciplinary undertaking. Psychology, economics, sociology, anthropology, agriculture, philosophy, human ecology, ethnography, forestry, native studies, ethnobotany, resource management are the disciplines represented in this literature review. In order to focus a potentially large body of literature on values of non-timbers, I chose to focus on forest-based values in Canadian case studies, Aboriginal values and uses of beaver and geese in North America, and theoretical considerations of non-timber forest product values or forest-based value. Due to the focus of my literature search, the majority of the articles have been drawn from forestry and forest management sources. By drawing from the forestry literature, I will be able to highlight Aboriginal non-timber values within this arena. The following review is divided into three sections, i.e., the value of non-timbers, valuation methods, and a brief summary of issues related to this literature. Literature related to the non-timber values of the James Bay Cree has been included in these sections.

The first section considers the construction of 'value' and specific values of non-timbers. The articles reviewed in this section focus on the theoretical nature of value as individual preference (Andrews & Waits, 1978; Brown, 1984; Rokeach, 1973), obligation as a value related to a social group (Andrews & Waits, 1978) and values independent of humans, i.e., Rolston's (1985) discussion of ecosystemic values such as water circulation or photosynthesis. The twelve wildland values in

Rolston's (1985) article and Youds' (1999) thirteen NTFP values reflect a potentially broad range of values. The range of values discussed in theoretically based considerations, such as Rolston (1985) and Youds (1999), has not been documented by case studies on NTVs. Focusing on one or two values, e.g., wilderness preservation in Kulshreshtha & Loewen (1997), and Rollins & Lyke (1998), is, in part, a function of the methods researchers use for valuing non-timbers. Market, non-market and non-economic valuation techniques are the three broad categories of non-timber valuation methods described and discussed in detail in the second section. The third section offers a few brief conclusions on NTFP value and valuation literature.

The Values of Non-timber Forest Products

Rokeach (1973) claims that value "shows promise of being able to unify the apparently diverse interests of all the sciences concerned with human behaviour" (p. 3). However, the various disciplinary constructs and potential conflicts are not documented by Rokeach (1973) who defines 'value' from a social psychology perspective as a guiding belief and preference for desired ends. An individual's values, of which there are a small number, contribute to their value system defined as "an enduring organization of beliefs concerning preferable modes of conduct or end states of existence along a continuum of relative importance" (Rokeach, 1973, p. 5). Rokeach (1973) describes value systems as relatively stable over time as products of a personality within a specific socio-cultural system but subject to change as an individual matures and gains different experiences. Rokeach (1973) does not recognize the potential for conflicting values within an individual's value system.

Brown (1984) describes three realms of values, i.e., conceptual, relational and object. Values in the conceptual realm relate to an individual's preference that is rooted in ideals (Brown, 1984). Values of the conceptual realm are held values and "include modes of behaviour (e.g., bravery, loyalty), end-states (e.g., freedom, happiness), and qualities (e.g., beauty, symmetry)" (Brown, 1984, p. 232). In the relational realm, value is not inherent nor is it assigned "but merely that which arises from a preference relationship between a subject and an object" (Brown, 1984, p. 233). The author's preference for red fish over blue fish is an example of value in the relational realm. Assigned value, or worth, results from a comparison in the object realm (Brown, 1984), e.g., assigning a price to red fish. Through the relational realm, a held value becomes an assigned value. Brown's (1984) focus on individual preference fails to recognize value that exists independently of humans.

The existence of values outside of human is the focus of Rolston's (2003) *Value in Nature and the Nature of Value*. He claims that other authors such as Norton, who claims that "valuing always occurs from the viewpoint of a conscious valuer… Only the humans are valuing agents" (p. 143 in Rolston, 2003), are missing a range of values. Rolston's (2003) arguments for nonhuman valuation are strengthened by his discussion about other agents, e.g., in regards to plants he states that "plants make themselves; they repair injuries; they move water, nutrients, and photosynthate from cell to cell; they store sugars; ... they make nectars and emit pheromones to influence the behaviour of pollinating insects and the responses of other plants" (p. 145). The author discusses species as a whole, ecosystems and even planet earth as valuable and valuers. In the conclusions of his paper, Rolston (2003) cautions that it is dangerous, and naïve, "in a time of ecological crisis" (p. 152) to take oneself as the only valuer, and human values as the only ones of consequence.

Andrews & Waits (1978) define value as "a statement of relationship, an estimation of worth of some object to an individual or in a particular situation" (p. 9). This definition of value includes relationships independent of humans, i.e., biocentric values such as the need of a tree for water and sunlight. Andrews & Waits (1978) refer to this relationship as a functional one (relating to the ecosystem). The other two value relationships discussed by the authors are preference and obligation. Preference is usually measured at the individual level while obligation is usually measured by a social group.

The combination of Brown's (1984) realms of value and Andrews and Waits' (1978) three types of value relationships provides the basis for Bengston's (1994) discussion of disciplinary perspectives of value. Held and assigned values both exist at individual, social and ecosystemic levels. The emphasis on methodological and theoretical pluralism in order to consider forest values is interesting in light of the absence of inter-disciplinary studies (i.e., human ecology) in Bengston's (1994) 'disciplinary chart'. Bengston (1994) fails to suggest how to incorporate or unite disciplinary perspectives to create a comprehensive mosaic of forest values.

The most comprehensive consideration of value is provided by Rolston (1985) in his discussion of wildland values. Rolston (1985) divides value into seven categories including individual preference, individual good, social preference, social good, market, organismic and ecosystemic. Individual and social preference relate to an individual's or group's partiality of one item or another, market value is monetary worth and individual, social, organismic and ecosystemic 'good' are positive contributions to well being. Preference and good do not necessarily coincide (Rolston, 1985). For example, an individual may prefer to eat only bacon whereas a varied diet would contribute to the individual's physical well being (good). The operationalization of these categories in the field is uncertain due to the theoretical nature of Rolston's (1985) paper.

In the current literature, definitions of forest values range from the specific to the nebulous. For example, Tewari (2000) defines value as "the economic value or the value in exchange, which is determined by the forces of demand and supply" (p. 52) while McFarlane & Boxall (1999) define forest values as "general beliefs about forests" (p. 1). Youds (1999) provides no explanation of the term 'value' assuming the existence of a common definition. The definition cited most often relates to the economic worth of an object (Condon & White, 1994; McKenney & Sarker, 1994; Tewari, 2000).

A number of authors (e.g.,McFarlane & Boxall, 1999; McKenney & Sarker, 1994; Youds, 1999) have attempted to categorize the range of forest values. Thirteen categories of NTFP values and interests are presented by Youds (1999) as representative and all encompassing. Based solely on a publication by the British Columbia Ministry of Forests (1991), the categories are vague and confusing. For example, Youds (1999) defines spiritual and aesthetic values as including "the full range of (visual, tactile, auditory, olfactory) aesthetic experiences available from forests" (p. 17). Youds' (1999) focus on the aesthetic experience ignores potential spiritual values related to the emotional well being of individuals, their communities and cultures.

The list of twelve wildland values provided by Rolston (1985) is the most comprehensive categorization of forest-related values. Market, life support, recreational, scientific, biodiversity, aesthetic, cultural symbolization, historical, character building, therapeutic, religious and intrinsic natural value are the values conceptualized by Rolston (1985). Although Rolston's (1985) list is the most comprehensive in the literature, the list is incomplete. For example, the value of relationships with other individuals and, or the land may be facilitated by NTFPs and NTFP-related activities.

Tindall's (2003) work entitled 'Social values and the contingent nature of public opinion and attitudes about forests' provides a more recent example of the potential range of forest-based values. The values used in this study to explore attitudes include recreation and outdoor experiences, community sustainability, cultural values, ecological, aesthetic, economic, science and education, work, and equity values. These value categories did not emerge from the study, but rather the categories were created at the outset of the research "based on theoretical, and substantive considerations" (Tindall, 2003, p. 204).

The categories of NTFP values discussed by McKenney & Sarker (1994) are market, use and non-use values. Use value relates to an individual's choice to engage in a consumptive (e.g., camping) or non-consumptive (e.g., animal watching) activity. Non-use values include existence, option, quasi-option, bequest, vicarious, and environmental control services (McKenney & Sarker, 1994). The meagre range of values presented by McKenney & Sarker (1994) relates to their definition of NTFP values as "those goods and/or services produced by forest lands which enter an individual's preference (or utility) function and for which individuals are willing to sacrifice their scarce resources" (p. 47). This definition restricts potential values to those based on individual preference and exchange.

As an alternative to exploring specific categories of NTFP values, McFarlane & Boxall (1999) focused on value orientations of hunters and campers. Based in the Foothills Model Forest, the objectives of this study included categorizing the nature of stakeholder value orientations as biocentric or anthropocentric. Anthropocentric values included economic and ecosystem functions while biocentric values were spiritual, existence, inherent rights of nature and aesthetic. The survey was based on a questionnaire that was completed by Alberta residents with hunting licenses, residents, and campers who had participated in a previous (unnamed) study. The survey asked participants to respond to statements based on a scale from 1 (strongly disagree) to 5 (strongly agree). The findings suggest that hunters and campers are fundamentally biocentred as they agree "with spiritual and existence values and the rights of forests and other species to exist for their own sake" (McFarlane & Boxall, 1999, p. 14). The authors do not discuss the potential influence of the previous study on the respondents' answers.

Feit's (1986) discussion of beaver harvesting practices and beliefs of James Bay Cree in Waswanipi provides an Aboriginal example related to a biocentric value orientation. The worldview of the Waswanipi Cree includes the belief that "the animals, the winds, and many other phenomena are thought of as being *like persons*" (Feit, 1986, p. 51). The interactions between the Waswanipi and animals are all guided by respect and the notion of reciprocity and these governing principles resulted in the historical management and conservation of beaver populations by Waswanipi until disruption by outside forces including "government regulations or policies, and of large scale industrial development of non-wildlife resources" (p. 59). Feit (1986) argues for the co-management of resources by the Waswanipi and governments based on the idea that each group needs the other in order to effectively manage interactions with the beaver populations.

Fineup-Riordan (1990) uses oral traditions to highlight the similarities and differences between humans and nonhumans, and the reciprocity and respect that are required of human-animal interactions of the Yup'ik Eskimos of Nelson Island, Alaska. The author highlights the notion that hunting success is dependent on social and ritual relations. "Offences against the birds are the cause of their 'hiding themselves from our sight' and only when such inappropriate behaviour ceases will the birds return" (Fineup-Riordan, 1990, p. 178). The concept of resource limits, e.g., geese, is not culturally appropriate because of the Yup'ik belief that geese are limitless, therefore, people cannot affect the number of geese. Fineup-Riordan (1990) argues that the resolution of conflicts between the Yup'ik and non-Aboriginal resource managers, government staff and researchers will come only when Yup'ik actions, and beliefs, related to harvesting are understood within the larger context up their realities.

An extensive review of the literature revealed that few studies have been conducted on the value of NTFPs in Canada during the past 26 years. Table 2 provides a summary of 33 case studies of NTFP values conducted in Canada. The majority of studies on NTFP values in Canada focus on one value, i.e., recreation, wildlife (consumption, recreation and preservation) or wilderness preservation. These three values account for 27 of 33, or 82%, of the case studies listed in Table 2. Of the 33 Canadian case studies related to NTFP valuation, four studies consider two values (i.e., preservation and recreation) and Scott's (1987) is the only one that recognizes three values, i.e., subsistence, maintenance of social relations, and relationship to the land. A second point of note in Table 2 is that the case studies are based on few NTFPs. The preponderance of studies focus on the values of forested areas as a whole (e.g., aesthetics, recreation and wilderness preservation) and wildlife with the exception of Turner's (1988) study that was concerned with plants.

The focus on specific NTFPs and values is matched by a concentration on certain populations. Of the 33 studies listed in Table 2 that recorded the study

TABLE 2 Valuation Method, Value(s), Population and Location of Canadian NTFP Value Studies.

Reference	Valuation Method	Value(s)	Respondents	Location
(Adamowicz, Asafu-Adjaye, Boxall, & Phillips, 1991)	Contingent Valuation Method (CVM)	Wildlife preservation	households	Alberta (AB)
		Hunting activities	Residents	
(Adamowicz, Boxall, Williams, & Louviere, 1998)	CVM Choice Experiment (CE)	Woodland caribou passive use values	residents of Edmonton	AB
(Adamowicz, Swait, Boxall, Louviere, & Williams, 1997)	Random Utility Model (RUM)	Hunting site quality		
(Boxall, 1995)	Travel Cost Method (TCM)	Antelope hunting	Fish and Wildlife special license applicants	AB
(Boxall, Adamowicz, Swait, Williams, & Louviere, 1996)	CVM CE	Moose hunting	Licensed moose hunters	AB
(Boxall, Adamowicz, & Tomasi, 1996)	TCM	Bighorn sheep hunting	Licensed bighorn sheep hunters	AB
(Boxall, Englin, & Watson, 1999)	TCM	Wilderness recreation	Registered park visitors	Manitoba (MN), Ontario (ON)
(Boxall & Macnab, 2000)	CE	Moose hunting	Licensed moose hunters	Saskatchewan (SK)
		Wildlife viewing	Members of Nature Saskatchewan	
(Boxall, McFarlane, & Gartrell, 1996)	TCM	Recreation (camping)	Residents	AB
(Boxall, Rollins, & Englin, 2003)	Cv	solitude welfare impacts of congestion on each trip portion	backcountry canoeists	ON
(Boxall, Watson, & Englin, 1996)	TCM	Recreation (primarily canoeing)	Registered canoeists	MN
(Capel & Pandey, 1973)	TCM	Deer hunting	Licensed deer hunters	MN
(Clark, 1987)	TCM	Wildlife recreation and preservation	Visitors to swallow roost in Pembroke	ON
(Cocheba & Langford, 1981)	CVM	Wild geese preservation	Households	SK
(Condon, 1996)	CVM	Preservation of pine martin	Households	Newfoundland (NF)
		Moose hunting	Licensed moose hunters	

TABLE 2 Valuation Method, Value(s), Population and Location of Canadian NTFP Value Studies (continued).

Reference	Valuation Method	Value(s)	Respondents	Location
(Condon & Adamowicz, 1995a)	CVM	Preservation of pine martin	Households	NF
		Moose hunting	Licensed moose hunters	
(Condon & Adamowicz, 1995b)	CVM	Economic value of moose hunting	Licensed moose hunters	NF
(Dearden, 1980)	Landscape Quality Scale	Aesthetics	Members of Sierra Club, planners and users of urban parks in Saanich	BC
(Englin, Boxall, Chakraborty, & Watson, 1996)	TCM	Recreation (canoeing)	Registered canoeists in Nopiming Park	MN
(Hunt & Haider, 2000)	Scenic Beauty Estimation Method (SBE)	Aesthetics	residents (concentration of students and individuals from non-profit organizations)	ON
(Jacquemot & Filion, 1987)	Market	Wildlife-related recreation	Canadians	Canada
(Kreutzwiser, 1981)	TCM	Recreation	Long Point marsh users	ON
(Kulshreshtha & Loewen, 1997)	CVM	Wilderness preservation	Households in aboriginal sections of Prince Albert and other Residents	SK
(McDaniels, Gregory, Arvai, & Chuenpagdee, 2003)	CV	benefits of fisheries enhancement on one river benefits of fisheries enhancement on ten rivers	adults recruited by ads at UBC	BC
(Macdonald & McKenney, 1996)	CVM	Wilderness preservation	Residents of Sault Ste. Marie	ON
(McFarlane & Boxall, 1996)	Forest Attitude Scale	Recreation	AB residents/campers in Rocky-Clearwater Forest	AB
(McFarlane & Boxall, 1998)	TCM	Recreation (camping)	Registered campers in William A. Switzer Provincial Park	AB
(McFarlane & Macnab, 1999)	Wildlife Attitudes and Values Scale	Wildlife Viewing	Members of Nature Saskatchewan	SK
		Moose hunting	Licensed SK moose hunters	
(Morton, Adamowicz, & Boxall, 1995)	Contingent Behaviour Method (CBM) (CVM variant)	Recreational hunting experience	Licensed deer and moose hunters	SK
(Meyer, 1974)	CVM	Salmon fishing and preservation	Lower mainland households	BC

TABLE 2 Valuation Method, Value(s), Population and Location of Canadian NTFP Value Studies (continued).

Reference	Valuation Method	Value(s)	Respondents	Location
(Nautiyal & Chowdhary, 1975)	TCM	Recreation (camping)	Park visitors	Earl Rowe Park, ON
(Reid, Stone, & Whiteley, 1995)	CVM	Wilderness preservation and recreation	British Columbia (BC) residents	BC
(Rollins & Lyke, 1998)	CVM	Wilderness preservation	Canadians	Northwest Territories (NT)
(Sarker & Surry, 1998)	TCM	Moose hunting	Licensed ON moose hunters	ON
(Scott, 1987)	Ethnography	Subsistence, maintenance of social relations and relationship to the land	Cree of James Bay and Hudson Bay Coastal Villages	ON
(Tindall, 2003)	surveys/ questionnaires	ecological values, recreation experience, aesthetic, community sustainability, cultural values, economic values, work values, science and education, equity	general public, members of formal environmental organizations, first-year university forestry students	BC
(Turner, 1988)	Cultural Significance Index (CSI)	Cultural significance of plants	Thompson and Lillooet Interior Salish	BC
(Usher, 1987)	CVM	Commercial, domestic and sport fishing	Representatives of local aboriginal bands, commercial fishermen, tourist operators, local residents (non-Aboriginal) and tourists	ON

respondents, eleven focused on wildlife consumers (hunters & fishers), recreationists were respondents in nine studies, ten studies were a random sampling of a specific resident population (e.g., Edmontonians), three studies included members of nature organizations, and Indigenous people participated in three of the studies. In regards to study and respondent's location, Alberta and Ontario are almost equally represented in Table 2, with ten and nine studies respectively, while coastal provinces (British Columbia and Newfoundland) total five of the thirty-three studies. Saskatchewan, Manitoba and the Northwest Territories were the location of five, two and one study respectively. The Prairie provinces represent 54% of the studies listed in Table 2, Ontario 28%, BC 9%, Newfoundland 6% and Northwest Territories 3% while New Brunswick Nova Scotia, Nunavut, Prince Edward Island, Quebec, Yukon are not represented.

Youds (1999) recognizes recreationists, consumers of wildlife and Indigenous peoples as NTFP value holders. Aboriginal NTFP interests and values include "the range of traditional harvests and uses, including botanical products and medicines, fish, wildlife, spiritual and community values" (Youds, 1999, p. 3). The use of the word 'traditional' is problematic because, as Berkes (1999) points out in the context of 'traditional knowledge', it projects contradictory images such as the romanticized 'noble savage', environmental 'wastrels' or fallen angels contaminated by external influences and distanced from their historical roots.

In an article entitled *Aboriginal Use of Non-Timber Forest Products in Northwestern North America: Applications and Issues*, Turner & Cocksedge (2001) provide a summary of Aboriginal uses of NTFPs in BC including wildfoods, fuel, fibrous plant materials (e.g., baskets, clothing, cordage), technology (cooking utensils, bedding) and medicine. The authors describe the monetary values of items in galleries and museums, e.g., $325 for a basket in the Royal British Columbia Museum, as well as NTFP values related to well-being, i.e., healthful foods. Turner & Cocksedge (2001) emphasize concern for the future of Aboriginal harvesting activities due to competition for land and products. For example, the bark from the yew tree is used in an anti-cancer drug and the bark is being harvested throughout British Columbia in a manner that is killing the trees (Turner & Cocksedge, 2001). The depletion of Pacific Yew results in diminished resources for Aboriginal medicines and carved implements from yew (Turner & Cocksedge, 2001). The recommendations section could be stronger as the authors suggest principles of sustainable harvesting but fail to consider the way in which multiple stakeholders come together to work around competing interests and develop a practical plan for harvesting NTFPs.

In *Wildlife Harvesting and Sustainable Regional Native Economy in the Hudson and James Bay Lowland, Ontario*, Berkes et al. (1994) outline the value of bush food in the Mushkegowuk Region of the James and Hudson Bay Lowlands. The authors distributed a questionnaire to potential hunters, males over the age of 18, and, in the absence of an appropriate male, female heads of households regarding their harvests of waterfowl, fur-bearers, caribou and moose. In Moose Factory, 235 people responded to the survey. The replacement value of waterfowl, i.e., Canada geese and lesser snow geese, was $296, 222 while the value of fur-bearers, e.g., beaver and marten, was $44, 256. Although the authors do comment that country food is socio-culturally important, they do not go into detail about the non-economic significances of waterfowl, caribou, moose and furbearing animals.

Scott's (1987) consideration of the importance of waterfowl to Eastern James Bay Cree is based on ethnographic fieldwork. Relations between hunters, resource management and ecological knowledge are noted as social significances of waterfowl. "Each stage and aspect of the hunt is both a ritual enactment and a practical activity, symbolizing key relations in the structure of Cree society and its connection to the natural world" (Scott, 1987, p. 57). Scott's (1987) article focuses on hunters who are typically adult males in Cree society.

NTFP Valuation Methods

As public interest increases in sustainable forest management, managing forests for multiple values and forest-based development, policy analysts, non-governmental organizations, and academics are increasing their use, and refinement, of NTFP valuation methods. Three general categories of NTFP valuation methods are market, non-market and non-economic. Market valuations of NTFPs are based on statistics recorded by governments. Non-market valuation techniques include both direct and indirect survey methods (McKenney & Sarker, 1994). Indirect survey methods include travel cost method (TCM)[14] and hedonic price method. The most predominantly employed direct survey method is contingent valuation method (CVM)[15]. Non-economic valuation methods of NTFPs include Cultural Significance Index (CSI) and the Scenic Beauty Estimation (SBE).

Based on market valuation, mushrooms from British Columbia have a market value ranging from $4,557,879 in 1993 to $8,643,151 in 1997 (Tedder, Mitchell, & Farran, 2000). Market valuation in this study was based on export statistics from Statistics Canada and the United States Department of Commerce. Although Tedder et al.'s (2000) study was concerned with all botanical NTFPs, only the market values of mushrooms were recorded. The value (price) of all other NTFPs, e.g., medicinal plants, salal and berries, was estimated based on other studies as this information is absent in national accounts. Market valuation is limited by the information recorded on exchange of goods in a formal market. Household or personal uses of NTFPs are often not recorded in market valuations.

Tewari (2000) proposes that 'proper valuation' of NTFPs involves determining the income from NTFPs harvested from one hectare of forest. Important components of Tewari's (2000) value equation include the price of an NTFP, extraction costs and quantities of NTFPs harvested from one hectare of forest over a period of a year. A critical assumption underlying Tewari's (2000) argument is that all NTFPs have a monetary value or can be priced. The limits of this valuation method are apparent in the discussion on the Neem tree. Tewari (2000) notes that

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[14] Value is represented by the TCM as the cost of travel to a site.

[15] Based on CVM, respondents are given a hypothetical situation and asked questions regarding their willingness to pay for a specific NTFP good or service. For example, a respondent might be asked what they would be willing to pay to preserve polar bears in Canada.

> Neem NTFP prices were low and were harvested for local consumption. Current scientific research has found many uses and commercial exploitation of Neem is expected to be high and the demand for Neem NTFPs is rising, finally pushing the prices up. The economic model can not capture this kind of change.... Many NTFPs are now not in use but could be found to be useful in the future (p. 62).

The monetary focus of this economic model can not 'capture' local values of Neem, e.g., as medicine, a sacred tree and pesticide, nor does it recognize the critiques of commercial exploitation of Indigenous knowledge of Neem. Shiva (1997) refers to Western development of Neem and Neem patents as 'biopiracy'.

During the 1940s, Harold Hotelling developed the TCM as a way to estimate demand by substituting travel costs for price. Based on an aggregated TCM, Boxall, McFarlane, & Gartrell (1996) estimated the value of forest recreation areas in Alberta for 1994 at approximately $750,000. Travel costs were determined using the expression: 0.22 x distance + [1/80x1/3x (income/2040) x distance] +[2x$9.00]. The TCM was based on a number of assumptions including the cost of using a vehicle at $0.22 km, an average speed of 80km/h, individuals would take the most direct route from their residence to the site, individuals paid $9 a night and stayed two nights (Boxall, McFarlane et al., 1996). The actual information collected in the study, through a survey attached to camp permits, was the number of past visits to the campsite, the number of people in the party and the postal code of respondents.

Contingent Valuation Method (CVM) is the most commonly used indirect method for determining nonmarket valuation of NTFPs. Based on the CVM, respondents are provided with a hypothetical situation and then asked a series of questions to determine values related to the relevant NTFP. The resultant values are known as willingness to pay (WTP). Using CVM, Kulshreshtha & Loewen (1997) determined that Aboriginal households in Saskatchewan were willing to pay $80 for preservation of wilderness while $60.89 was the average WTP for non-Aboriginal households. The most serious criticism of this valuation method is provided by Scott who stated that "if you ask a hypothetical question you will get a hypothetical answer" (in Adamowicz, 1992, p. 15). The respondents' answers to the hypothetical situation are problematic because they do not necessarily reflect their real behaviour (Kahneman & Knetsch, 1992), inaccurate answers are not penalized and respondents may have a lack of incentive to reveal actual attitudes (Adamowicz, 1992). A second criticism of CVM is that it is "the wrong answer to the wrong question" (Knetsch in Adamowicz, 1992, p. 16) because willingness to pay values are not equal to willingness to accept values. Willingness to pay is easier to elicit and produces more reasonable monetary values, however, there is a three to fourfold (Adamowicz, 1992) or tenfold difference (Condon & White, 1994) between willingness to pay and willingness to accept.

The constant refinement of economic valuation methods has resulted in new applications and models. Discrete choice method is similar to contingent valuation in that hypothetical situations are used, however, the basis of value for discrete choice methods is the choices or tradeoffs made by an individual. Examples of choice experiments or discrete choice experiments include Adamowicz et al.'s (1998) study on passive use values of caribou by residents of Edmonton, Alberta, the value of moose hunting to licensed moose hunters in Alberta (Boxall, Adamowicz, Swait et al., 1996) and Boxall and Macnab's (2000) research on the value of wildlife viewing to members of Nature Saskatchewan. The random utility model, a variant of the travel cost method, assumes that site choice will be based on an individual's preference out of all possible sites. Values related to hunting site quality were documented through the use of a random utility model by Adamowicz et al. (1997).

The validity of Kulshreshtha & Loewen's (1997) comparison of the existence values of Aboriginal and non-Aboriginal households using the contingent valuation method is questionable in light of Adamowicz, Beckley & Phillips's (1998) suggestion that economic valuation methods are not applicable to exploring the forest values of Indigenous peoples. Adamowicz et al. (1998) point out that the underlying assumptions of economic theory "developed in Euro-American cultures" (para. 5) may not be transferable, i.e., focus on individual preference, anthropocentric values, lack of substitutability between goods, individual property rights and the preference of more consumption to less. In response to potential cross-cultural differences in value orientations, the authors suggest that "combining ethnographic approaches with generalized economic theory may provide a richer model of resource valuation" (Adamowicz, Beckley, & Phillips, 1998, para. 49). Their suggestion is undermined by citing critiques of ethnographic approaches as "self-fulfilling prophecies" (Fisher in Adamowicz et al., 1998, para. 19) and emphasizing the importance of an approach rooted in economics.

Ethnographic data on the Salish in Thompson and Lillooet formed the basis for Turner's (1988) development of the Cultural Significance Index (CSI). The cultural significance of a plant is based on the sum of the uses of a plant that is determined by the quality of use[16], the intensity of use[17] and exclusivity or preference of use[18] (Turner, 1988). The data on which Turner (1988) based her work is not explicitly discussed, aside from previous ethnobotanical studies, nor are the methods of data collection. Turner (1988) states that "in northwestern North America, where today ethnobotanical data are derived mainly from the memories of a very few individuals and not from day-to-day living experiences of native people, it would be neither practical nor meaningful to attempt such a detailed evaluation by native consultants"[19] (p. 274). The underlying assumption of this statement is that cultural significance is located in the past (rather than the present) although Turner (1988) defines cultural significance of a plant as "the importance of the role that it plays within a particular culture" (p. 275).

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[16] from 1 (mere recognition) to 5 (primary food).

[17] from 1 (negligible impact on daily lives) to 5 (daily use or primary cultural activity).

[18] from 0.5 to 2 (preferred above all other options).

[19] In this case, Turner (1988) is referring to Aboriginal peoples.

The absence of input from contemporary First Nations people in Turner's (1988) study is, to an extent, addressed in Stoffle, Halmo & Evans' (1999) study on Southern Paiute plants. The cultural significance of a plant is equivalent to the number of uses multiplied by the intensity, exclusivity of use and contemporary use value[20]. Based on interviews that elicited information about use, Turner's (1988) scales were modified and used by Stoffle et al. (1999) to assign values to plants used by the Southern Paiute. The resultant values may not represent the actual cultural significance that an individual places on a plant. For example, the cultural significance of Salix exigua is 300, lichen 4, and pinus monophylla 220 (Stoffle et al., 1999). Based on the relationship between the scores, Salix exigua is extremely important within the culture. However, the use of this index fails to outline the practical uses and significance of this plant, e.g., in ceremony.

The Scenic Beauty Estimation (SBE) method is used to determine the effects of forest characteristics and management on aesthetic values (Hunt & Haider, 2000). Hunt & Haider (2000) used this valuation method to determine the aesthetic quality of a variety of forestscapes in Ontario, e.g., undisturbed and selected harvesting for timber. Respondents viewed photographs of Ontario shorelines with a variety of "vegetation, topography and disturbance regimes" (Hunt & Haider, 2000, p. 3) and rated each forestscape on a ten point scale from poor (1) to excellent aesthetic quality (10). The findings revealed that tall trees were the most important aesthetic element.

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[20] Cultural Significance= $(p/u)(i)(e)(c)$ (Stoffle et al., 1999).

Specific aesthetic values are absent; the SBE scale does not provide aesthetic values or reasons why larger trees are more aesthetically pleasing to individuals.

Conclusions

Based on the NTFP value literature reviewed in this section, three conclusions can be offered regarding NTFP values. First, economic worth is the most commonly used definition of value in the literature cited. The comprehensive definition of value used in this research, i.e., a statement of relationship of the significance of an object, includes the various authors' definitions of value. Second, with few exceptions, e.g., Scott (1987), the studies completed to date focus on the specific values of wildlife consumption, recreation or preservation rather than considering multiple values of an NTFP. Finally, recreationists and wildlife consumers (i.e., hunters and fishers) are the dominant respondents in most NTFP value studies.

The valuation methods discussed in this chapter exhibit three common characteristics. First, the market methods, TCM, CVM, CSI and SBE are all unidimensional; all values are reducible to the same measurable unit. Bengston (1994) argues that unidimensionality is a common assumption in traditional forestry, heavily shaped by neoclassical economics. Second, values are all represented by numbers whether monetary values or on a relative scale. Descriptions are generally absent from these valuations. Finally, the specialized natures of the valuation methods are such that they can not capture a range of NTFP values. In the subsequent chapter, these considerations are further examined in relation to Aboriginal values. Further in the following chapter, a Human ecology approach is presented as an applicable way of exploring Aboriginal NTVs.

CHAPTER 3 VALUING NON-TIMBERS: THE THEORETICAL APPROACH AND METHODOLOGICAL PROCESS

Introduction

The forest is not simply an aspect of physical space; it encompasses spiritual, healing, social, cultural, economic and ecological dimensions. Howitt (2001) notes that "resources themselves need to be understood not as pre-existing substances or things, but in terms of functions and relationships" (p. 3). In order to gain a richer understanding of non-timbers, it is necessary to consider the contexts and the complex relationships that influence the nature of specific NTVs. A human ecology approach offers a holistic approach to exploring Aboriginal NTVs.

Human ecology focuses on human interactions with their whole environments. The major characteristics of this approach include theoretical and methodological interdisciplinarity, practical applicability of findings and the assumption that individuals interact with their environments in diverse ways. A human ecology approach provides an appropriate means for exploring Aboriginal non-timber values that is respectful of underlying contexts, e.g., cultural worldviews.

The assumptions underlying economic valuation methods and the unsuitability of these methods to describe Aboriginal NTVs are outlined in the first section of this chapter. The inadequacies of economic valuation methods include a focus on acting in an individual's best interests, maximizing utility[21], individual property rights, aggregation of responses to determine group values, unidimensionality[22], substitutability[23] and the commodification of nature[24]. The major tenets of a human ecology approach are outlined in the second section, followed by a discussion of the appropriateness of this approach to explore Aboriginal non-timber values. The fourth section of this chapter details data collection and analysis. Ethical considerations related to the research are discussed briefly in the final section of the paper.

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[21] Based on this premise, individuals will use as many resources as they are able to access.

The Cross-Cultural Inappropriateness of Assumptions Underlying Economic Valuation Methods

McKenney & Sarker (1994) define NTFP values as "those goods and/or services produced by forest lands which enter an individual's preference (or utility) function and for which individuals are willing to sacrifice their scarce resources" (p. 47). This definition alludes to the seven assumptions underlying economic valuation methods including individual rationalism, maximization of utility, property rights, unidimensionality, substitutability, aggregation of responses, and the commodification of nature. The incompatibility of these assumptions in relation to exploring Aboriginal NTFP values is examined in this section.

A major premise of the methods described above is individual rationalism. The assumption is that a single person independently makes rational choices and that these choices are directed at what is in their best interest. The notion that individuals act in their own self-interest is difficult to reconcile with social values related to NTFPs such as the sharing of waterfowl with elders and others in Ontario Cree communities (Berkes, 1999; Scott, 1987; Tanner, 1979). Further, the source of all values as preference or the result of a cognitive choice renders values such as spirituality invisible.

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[22] Measurements are recorded and reported using a single unit, e.g., dollars.
[23] The ability to interchange two items. For example, a plant worth $100 and two $50 trees.
[24] Products that can be bought and sold in markets.

Adamowicz et al. (1998) note that "in utility theory, it is generally assumed that individuals prefer more consumption to less" (p. 59). An individual's choices are made with the end of heightening their gains or utility from a pool of NTFPs. This accumulation and increased consumption of resources is not in line with the practices of sharing wild meat with elders and amongst community members within Cree communities, and activities such as gifting or give-aways. These activities suggest that more social status is gained or socio-cultural obligations are fulfilled by giving the geese away rather than accumulation by an individual hunter. The limits to individual accumulation "may be due to satiation at an individual level, or they may be a social response to environmental conditions. In any event, these limits on individual accumulation lead to difficulties in nonmarket valuation" (Adamowicz, Beckley, MacDonald et al., 1998, p. 59).

Economic valuation implicitly assumes individual (whether a single person or corporation) ownership of land. Adamowicz et al. (1998) state that "if respondents are used to thinking of property as a communal resource, the benefits of which are shared among the property holders, then they may not be able to think of changes in the terms of how their individual utility is affected" (p. 59). The problem is greater than communal property; the appropriateness of the concept of 'property' must be examined. In the case of communities that describe their role as stewards or caretakers rather than owners (Royal Commission on Aboriginal Peoples, 1995), the assumption of ownership is inappropriate.

According to economic valuation methods, NTFP values can be defined in terms of market supply or demand, monetary worth, willingness to pay for NTFPs or willingness to accept the loss of NTFPs (Bengston, 1994). All values are reducible to a single all encompassing unit resulting in unidimensionality of values. NTFP values related to aesthetic experiences, cultural sustainability and healing are all expressed quantitatively, i.e., in terms of economic worth. The difficulty with the economic quantification of NTFPs is summarized by Sagoff's (1988) statement that "it is fair to say that the worth of things we love is better measured by our unwillingness to pay for them…the things we are unwilling to pay for are not worthless to us. We simply think we ought not to pay for them" (p. 69). Use of the term 'priceless' reflects the inability of individuals to describe attachments to NTFPs in terms of currency.

The notion of substitutability is a component of all economic valuation techniques. The computation of value through a common unit means that values are interchangeable; one value may be substituted for another. Kant (2003) notes that "many forest values such as spiritual, aesthetic, and symbolic are complementary and not substitutes to consumptive or monetary values" (p. 44). Hudson and James Bay Cree spring goose hunting parties include the whole family from small children to grandparents (Flannery, 1995; Tanner, 1979). Away from villages and distractions, this is a time for families to bond, children to learn hunting skills, how to survive on the land and gain knowledge about the habitat of the waterfowl. Subsistence, strengthening social relations and education values of goose hunting are not interchangeable but complementary.

The aggregation of individual values determines the values of a specific group from an economic valuation standpoint. Analysis at an individual level ignores influences such as social norms, obligations and worldviews in shaping values (Andrews & Waits, 1978; Bengston, 1994; Rolston, 1985). Thurow (1983) states that "societies are not merely statistical aggregations of individuals engaged in voluntary exchange but something much more subtle and complicated.... A society is clearly something greater than the sum of its parts" (p. 223). The aggregation of individuals resembles the determination of the number of red, green and blue squares of a mosaic. The focus on individual colours results in a failure to observe the relationships between the tiles that form an image.

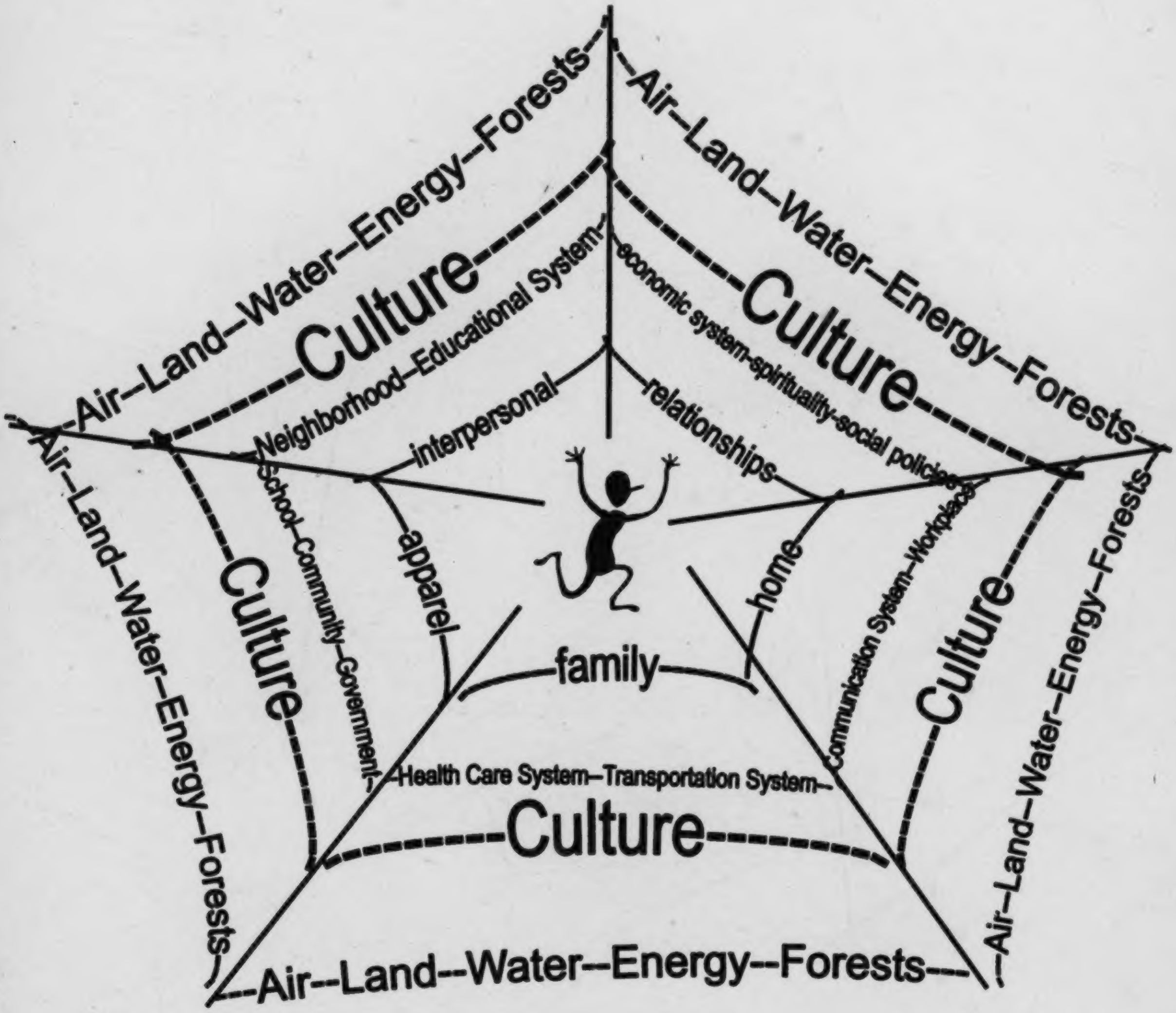
The term non-timber forest 'product' alludes to the seventh assumption, i.e., the commodification of nature. Shiva (1997) argues that assigning monetary values to nature, and by extension NTFPs, is part of "the colonizing impulse [of the Western powers] to conquer, own and possess everything... including nature" (p. 8). Human utility of NTFPs is central to economic valuation methods; non-anthropocentric values, or the rights of animals and nature to exist independent of humans are outside the sphere of economic valuation methods.

Individual rationalism based on maximization of utility, property rights, unidimensionality, substitutability, aggregation of responses and the commodification of nature are the seven assumptions underlying economic valuation methods. These assumptions result in a narrow definition of value, i.e., economic or monetary worth. By focusing on economic worth, values such as ecological benefits, socio-cultural significance and aesthetic experiences are rendered invisible. Further, the use of methods that are inapplicable to Aboriginal NTFP values perpetuates the historical exclusion of Aboriginal peoples from forest development and management.

Human Ecology Approach

Human ecology is defined as the study of the interaction between humans and their environments (Steiner, 1995; Westney, Brabble, & Edwards, 1988). In this context, the term 'environments' is not restricted to the natural but includes cultural, social, economic, material, natural, political and personal/internal. The interaction of people and their environments according to a human ecology approach is represented in Figure 2 'Human Ecology Web' (HEW). The basic premise of the model is that individuals interact with their whole environments through thought, experience and emotion. The model incorporates four assumptions central to human ecology theory including interdisciplinarity, interconnectedness, multiple ways of knowing and application to actual circumstances.

Figure 2 Human Ecology Web[25]


Air--Land--Water--Energy--Forests
Air--Land--Water--Energy--Forests
Air--Land--Water--Energy--Forests
Air--Land--Water--Energy--Forests
Air--Land--Water--Energy--Forests
Culture
Culture
Culture
Culture
Culture
Neighborhood--Educational System
economic system-spirituality-social policies
Communication System--Workplace
Health Care System--Transportation System
School--Community--Government
interpersonal
relationships
home
family
apparel

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[25] This model provides a heuristic way of helping to discuss Aboriginal non-timber values.

Westney et al. (1988) and Steiner (1995) refer to human ecology as an eclectic discipline. This eclecticism is apparent in descriptions of human ecology as multi-disciplinary, trans-disciplinary (Steiner, 1995) and inter-disciplinary (Jungen, 1986; Polk, 1995). These terms have slightly different meanings as 'multidisciplinary' is defined as including a mosaic of disciplines, the term 'transdisciplinary' refers to transcending disciplinary boundaries, and melding or combining disciplines is interdisciplinary. The interdisciplinarity of human ecology is reflected in the HEW through inclusion of the natural, cultural, aspects of the social, familial and personal environments. By stretching across constructed disciplinary boundaries, human ecology integrates different perspectives to provide a comprehensive consideration of NTVs.

The interdisciplinarity of a human ecology perspective is not restricted to the conceptual realm as Jungen (1986) notes that the "interdisciplinary ideal of openness and respect also concerns the different scientific instruments and methods" (p. 39). This approach to research does not prescribe specific data collection methods but allows for a variety of methods. Surveys, participant observation, unstructured interviews and land use mapping are examples of methods that can be used to explore non-timber values. Further, human ecology encourages the integration of findings based on various collection and analysis methods.

A human ecology approach recognizes the interconnectedness of people and their environments. The representation of the person in the middle of the web reflects the centrality of the human-environmental relationship to the field of study. Interconnectedness refers to the mutual influence that exists in human-environmental relationships. “The use of the word ecology marks a conceptual trend away from isolationist studies toward analysis at more complex levels, and represents on both practical and theoretical levels, the attempt to rethink the relationship between the parts and the wholes” (Visvader, 1986, p. 120). Individuals exist within multiple contexts simultaneously, e.g., social, cultural, economic and spatial. A limited understanding, or misunderstanding, of values results from the failure to examine the circumstances that surround human-environmental relationships. Steiner’s (1995) ‘Human Ecological Traffic Light’ provides a sound basis for the discussion of ways of knowing according to a human ecology perspective. Human consciousness is divided into three parts including heads (discursive consciousness), hands (practical consciousness) and heart (unconscious) (Steiner, 1995). Discursive consciousness refers to rational or cognitive thought processes. Ways of knowing related to experience and perception are described by Steiner (1995) as practical consciousness. The unconscious is associated with aesthetics, feelings and valuation (Steiner, 1995) and include emotion and intuition.

Pratt (1993) and Taylor (1993) also discuss ways of knowing from a human ecology perspective. Pratt (1993) categorizes ways of knowing as mythic and paradigmatic. A mythic way of knowing is “characteristic of primitive cultures…

(and) approaches the thing known through intense participation" (p. 96); mythic knowing is experiential. Paradigmatic ways of knowing are critical and evaluative, a 'scientifc consciousness' (Pratt, 1993). Taylor (1993) in her "Response to 'Ecology of Knowing' by Jeremy Pratt" states that 'pathos' should be included as a way of knowing. 'Pathos' "comes to us through feeling, an epistemology of feeling which is neither equivalent to nor limited to emotion – nor to sensation" (Taylor, 1993, p. 104). Based on the ways of knowing posited by Pratt (1993), Steiner (1995) and Taylor (1993), individuals come to know about and interact with their environments through thought, experience and intuition. The various ways of knowing are represented in the model as the heads, hands and heart of the central figure.

Human ecology is an applied discipline. "It seeks to identify the forces which enhance human development, actualize human potential, optimize human functioning, and improve the human condition and the quality of lives of people" (Westney et al., 1988, p. 129).

Interdisciplinarity, interconnectedness, multiple ways of knowing and application to actual circumstances are key aspects of a human ecology approach. Based on these principles, value is broader than economic worth or the value of a commodity on exchange; a holistic definition of value is the significance of an non-timber to its valuer. A resource, according to a human ecology perspective, in its broadest sense is not restricted to products or inanimate objects but includes experiences, events, living organisms and ideas (Sontag & Schlater, 1995). This definition of value includes economic worth, socio-cultural meanings, ecological values of non-timbers and non-timber-related experiences, e.g., aesthetic or spiritual. The following section documents the appropriateness of a human ecology approach to exploring Aboriginal NTVs.

A Human Ecology Perspective for Exploring Aboriginal Non-Timber Values

A human ecology approach recognizes that the relationships of people to their natural environment, and all the values associated with elements of the environment such as trees, are socio-culturally distinct and complex. This holistic approach is critical for exploring Aboriginal non-timber values. The potential broad range of values, individual ways of valuing, belief in the interconnectedness of humans with their environments, context and practical application of findings are discussed in this section. In order to demonstrate the usefulness of a human ecology approach to Aboriginal non-timber values and the model in Figure 2, examples will be drawn from the James and Hudson Bay Cree.

The range of potential non-timber values of a community is broad as demonstrated by various studies in the literature[26]. Economic, recreational, aesthetic and educational values are recognized across these studies and many others that focus on NTFP values in Canada. Field studies that document the scope of non-timber values in Canada are limited, generally focus on one or two values, and are dominated by the recreation and preservation related values of recreationists and wildlife consumers (i.e., hunters and fishers). The potential range of non-timber values combined with the limitations of previous studies necessitates the use of an approach that is able to recognize a variety of values.

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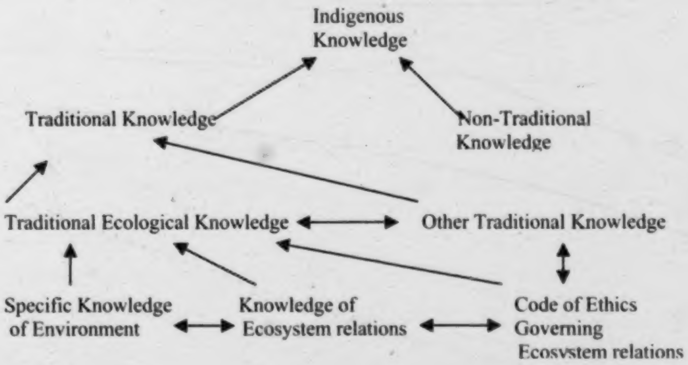
[26] For example, see Rolston (1985), Tindall (2003), Youds (1999)

The ability to explore a variety of values is particularly true for Aboriginal values as evident in following statement. Wilson (2003) notes that "the land does not just represent a physical space but rather, represents the interconnected physical, symbolic, spiritual and social aspects of First Nations cultures" (p. 84). This quote reflects that the forestscape and NTFPs, as aspects of the land, are significant in many ways. Scott (1987) illustrates the holistic nature of Aboriginal NTFP values in his study with the Hudson and James Bay Cree as he found that subsistence, social relations and relationship to the land are all values associated with waterfowl. A human ecology approach provides a holistic consideration of the potential values that Aboriginal peoples associate with non-timbers.

The potentially broad range of Aboriginal NTVs corresponds with the multiple ways of gaining knowledge about, and valuing, non-timbers. Figure 3 illustrates the structure of Indigenous Knowledge Systems as conceptualized by Stevenson (1996). Traditional Ecological Knowledge (TEK) is composed of three components, i.e., specific knowledge of the environment, knowledge of ecosystem relations and a code of ethics governing ecosystem relations (Stevenson, 1996). Further, TEK is influenced by, and influences, 'Other Traditional Knowledge (social, cultural, spiritual)' (Stevenson, 1996). Berkes (1999) presents the most

Figure 3 Structure of Indigenous Knowledge Systems
(Stevenson, 1996, p. 280. Permission to reprint from the Arctic Institute of North America)


Indigenous Knowledge
Traditional Knowledge
Non-Traditional Knowledge
Traditional Ecological Knowledge
Other Traditional Knowledge
Specific Knowledge of Environment
Knowledge of Ecosystem relations
Code of Ethics Governing Ecosystem relations

comprehensive definition of TEK as "a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (p. 8). TEK is composed of knowledge, practices and beliefs.

In comparisons of Indigenous Knowledge Systems with Western Science, TEK is characterized as closed, non-systematic (not experimental), irrational, qualitative and based on common sense rather than reason or abstract thought processes (Agrawal, 1995; Berkes, 1993). A number of authors, Agrawal (1995) and Nasadsy (1999), argue that the constructions of dichotomies, i.e., science and TEK, enables science to retain its hegemony. Berkes (1999) work with subarctic Cree fishermen illustrates that TEK can be quantitative and experimental.

The practical aspect of TEK relates to learning by doing. Bombay (1996), a member of the Rainy River Ojibway First Nation and Executive Director of the National Aboriginal Forestry Association, states that

> Another factor undermining the preservation of Aboriginal knowledge is the fact that youth are no longer spending the same amounts of time on the land as their parents once did. While it varies by degree, the general trend is for young Aboriginals to spend more time in front of TV learning about the dominant culture than on the land with their parents or grandparents learning about the environment around them. School obligations also prohibit young people from obtaining the long-term experience on the land needed to develop intimate, all-season knowledge of the ecosystem in their traditional territories (p. 20).

It is apparent from Bombay's (1996) statement that practical experience is a crucial way of learning and knowing regarding TEK.

The human ecology ways of knowing and constructions of Indigenous Knowledge Systems, represented by Stevenson's (1996) model, are compatible in a number of ways. First, ways of knowing in human ecology and TEK are both constructed as a trinity. Based on a human ecology perspective, ways of knowing are divided into heads, hands, heart (Steiner, 1995). TEK ways of knowing are a triad of knowledge, practice and beliefs (Berkes, 1999). Further, the ways of knowing are divided into similar categories, i.e., cognitive way of knowing is 'heads'/'knowledge', experiential ways of knowing refers to 'hands'/'practice' and feeling as a way of knowing is 'heart'/'beliefs'. Human ecology encourages the exploration of values beyond cognitive preference by acknowledging thought, intuition and experience as ways of human-environmental interaction, thereby specifically contributing knowledge about relationships between human experiences and surrounding systems. Further, human ecology recognizes equality of ways of knowing.

The second similarity between human ecology and TEK ways of knowing is that ways of knowing are constructed relationally. Knowledge is not a fixed commodity but a product of human relationships with their whole environment (Mosse, 2001). Ruddle (1993) states that "just as traditional (ecological) knowledge and its transmission shape society and culture, culture and society shape knowledge; these are reciprocal phenomena" (p. 18). This statement is similar to the following made by Taylor (1993) from a human ecology perspective: "our ways of knowing… mediate our environmental relationships" (p. 94). In summary, ways of knowing are interactional; knowledge influences and is influenced by human interactions with their environments.

Human ecology philosophy and ways of knowing in human ecology fit with TEK as an Indigenous way of knowing in regards to the dimensions of ways of knowing, the embeddedness of the knowledges and the interactive nature. A final point about TEK and human ecology relates to the potential of the knowledges. Human ecology is an applied discipline; knowledge is produced to "actualize human potential, optimize human functioning, and improve the human condition and the quality of lives of people" (Westney, Brabble & Edwards, 1988, p. 129). Applications of TEK, e.g., forest resource management, are recognized as "contributing to the spiritual, social and economic survival of Aboriginal peoples" (Bombay, 1996, p. 22).

Adamowicz et al. (1998) describe the "European worldview as homeocentric or focused on man, while that of Indigenous populations is ecocentric or focused on man as part of a community" (p. 56). This aspect of James and Hudson Bay Cree identity is evident in the responsibility of successful hunters to distribute their harvest to members of the community unable to hunt (Scott, 1987; Tanner, 1979). Social obligations extend into the future; the seventh generation concept requires "current generations being mindful of how decisions made today will affect the seventh generation of tomorrow" (National Aboriginal Forestry Association & Wildlands League, 2003). The holistic nature of a human ecology approach recognizes varying worldviews and beliefs.

The relationship between animals and people to the Hudson and James Bay Cree is characterized by respect (Berkes, 1999; Tanner, 1979). Hunters have demonstrated this respect by taking only what they need and not hunting for sport. In return, the animals give themselves to the hunter. This relationship reflects the interconnectedness of animals and people: disrespecting animals by over-harvesting and wastage eventually results in a poor hunt. The consequences extend beyond the loss of hunting opportunities for a specific individual as "the loss of subsistence or hunting practices deprives the Cree of the experience with which culture can be transmitted" (Berkes et al., 1994, p. 358). Extending beyond non-timbers and forests, this belief includes all aspects of the physical environment such as water, air and land. The human ecology principle of interconnectedness corresponds with the Cree belief in the interdependence of humans and their environments.

Bengston (1994) contends that "methodological pluralism is essential in studying forest values" (p. 522). By using a multiple method approach such as human ecology, methods are based on participant suitability. Tindall (2003) notes that specific methods, i.e., telephone interviews and self-administered questionnaires, have low response rates with Aboriginal populations due to unfamiliarity with methods, apprehension of sharing knowledge due to historical appropriation and fear that information will be used against community in legal matters such as land claims. Using a human ecology approach allows methods to be chosen that are the most comfortable and suitable for the participants.

The applications of non-timber values are broader than integrated forest policy of Canadian governments. The findings from value studies are useful to participant communities in a multitude of ways including land-use plans and as basis for protection of culturally significant areas. As more First Nations become involved in commercial forestry, values can be used to guide forestry plans to ensure socio-culturally and ecologically appropriate development. Increasingly, the methods used to document values must be not only acceptable to, but welcomed by, local interests. Aubel (1999) notes that sophisticated or 'scientific' methods are often mysterious and alienating to community members.

Research Process (Data collection and analysis)

The inapplicability of assumptions underlying economic valuation methods to Aboriginal non-timber values resulted in Adamowicz et al. (1998) suggesting, albeit hesitantly, that an ethnographic approach "may provide a richer model of resource valuation" (para. 49). An ethnographic approach is "a style of research that is distinguished by its objectives, which are to understand the social meanings and activities of people in a given 'field' or setting, and its approach, which involves close association with, and often participation in, this setting" (Brewer, 2000, p. 11). This approach is well suited for exploring and documenting the NTVs of the Moose Cree. As fieldwork, or prolonged contact with the participants, is a central component of an ethnographic approach, I spent from September, 2002 to August, 2003 residing in Moose Factory. During this time, I collected information on NTVs through semi-structured and unstructured interviews, participated in a range of community events (e.g., gatherings) and observed non-timber harvesting activities (e.g., trapping and goose hunting).

I used unstructured interviews (characterized by a lack of interview schedule) to develop relationships with research participants (Hammersley & Atkinson, 1995) and explore the non-timber values of the research participants. Table 3 presents the age, gender, marital status, languages spoken, and number of children of each

TABLE 3 Selected Information Regarding Research Participants

Participant	Age	Gender	Marital Status	Languages Spoken	Number of Children
1	74	Female (F)	Married (M)	Cree (C)/English (E)	4
2	74	Male (M)	M	C/E	4
3	71	F	Widowed (W)	C/E	5
4	40	M	M	C/E	2
5	72	F	W	C/E	5
6	61	F	W	C	10
7	68	F	M	C/E	11
8	72	F	W	C/E	8
9	65	F	W	C/E	6
10	67	F	M	C/E	5
11	56	m	M	E	2
12	65	F	M	C/E	9
13	76	F	W	C/E	10
14	67	M	M	C/E	5
15	81	F	M	C/E	11
16	87	M	W	C/E	7
17	68	F	W	C/E	11
18	69	M	M	C	5
19	81	M	M	C/E	7
20	81	F	M	C/E	7
21	79	F	W	C/E	5
22	81	F	M	C	10
23	65	M	M	C/E	6
24	54	M	M	C/E	5
25	45	F	M	C/E	3
26	76	F	M	C/E	10
27	86	M	M	C/E	10

participant. I used snowball sampling to gather my 27 interview participants. Of these 27, 17 were female and 10 male. The majority of the participants were elders (only 4 are under the age of 60). The average interview was two hours in length. The questions I asked participants during the interviews focused on personal information (age, place of birth, marital status, number of children), genealogy (family members), bush activity (how often they go into the bush), goose harvesting information (how often they hunt, who they hunt with, what they do with the geese they harvest), and beaver harvesting (trapping activities of family members, past/present use/consumption of beaver).

Participant observation was a critical method for data collection for four reasons. First, participant observation is important for research in areas in which there is little guidance, as is the case for the study of multiple, interrelated values supported by non-timbers. Second, participant observation allowed me to establish and maintain relationships and build trust with research participants (Brewer, 2000; Hammersley & Atkinson, 1995). Participants emerged as key interview participants only after I spent time with them and their families engaging in harvesting activities. Third, participant observation allowed the research to take place in the participants' natural settings. A few of the participants stated that they felt more comfortable sharing their stories and knowledge with me while out on the land. Finally, participant observation facilitated the transfer of knowledge from the research participants to myself in non-verbal ways. For example, describing an activity such as goose hunting is much easier for my having accompanied hunters to their camps.

After a year of residing in the community (September, 2002 to August, 2003), I returned home and began the process of transcribing interviews and organizing the data. I entered all of the written documentation, such as transcripts and my fieldnotes, into NVivo®. My use of this qualitative analysis software facilitated thematic analysis of the data. After coding and recoding the data, the seven themes of the values of beaver and geese to the Moose Cree, outlined in the following chapter, emerged. I returned to Moose Factory to discuss the preliminary findings with the community. I met with approximately ten participants individually to discuss the seven categories. I also did a series of presentations in the community and encouraged discussion around the presentations. The resulting comments were all favourable: often individual's comments were in the form of recounting a story directly related to a category, e.g., after talking about social relations one woman talked about the last goose hunting trip that she took with a loved one who had recently passed on and the importance of that memory. The month that I spent in Moose Factory was critical for both the project and myself. I was able to fulfill my agreement by returning the data and findings to the community. Personally, my return gave me a chance to strengthen those relationships I had carefully built the previous year. I enjoyed surprising people who said, upon my departure the previous August, that "you'll be like the others: you won't come back".

Ethical Considerations

The potential lack of reciprocity of ethnographic studies is evident in the following statement of a teacher from Beynon's (1983) research on schools: "When you first arrived we thought- Here's another bloke getting a degree on our backs!" (p. 47). Returning to the community with the research findings and data, as discussed in the previous section, alludes to the participatory approach guiding research ethical issues. According to a participatory approach, ethical issues are negotiated amongst all research participants throughout the research process. Appendix 1 outlines the ethics agreement between myself and community. The key points detailed below include informed consent, respecting local protocols, access to data and dissemination of the findings.

Voluntary informed consent involves more than a prepared consent form offered for a participant's signature at the beginning of the research process. Potential risks and benefits were discussed before consent was obtained (Sieber, 1998). To ensure that research participants gave informed consent and that they, and the researcher, were aware of all potential benefits and risks, on-going discussions took place concerning issues related to the research. I spent two months at the beginning of my fieldwork talking to different community groups, e.g., trappers association and elders group, and other individuals, identified by the Lands and Resources Secretariat as potential participants, presenting myself and my project. One individual visited me four times before he felt comfortable talking to me and agreed to participate in the project.

In order to ensure that I followed local protocols during my research, I was in constant contact with the Lands and Resources Secretariat (LRS). The purpose of the LRS is to "provide for the management, protection, and preservation of the Moose Cree First Nation (MCFN) traditional lands on behalf of its membership" (Moose Cree First Nation, n.d.). This board is composed of two elders, two youth, two elected councillors, the deputy chief, legal counsel and three members at large from the Moose Cree First Nation. Throughout the time I spent in Moose Factory, I made regular presentations to the LRS about my progress and any concerns that I or other individuals had voiced. I often spoke with members of the LRS in passing. I recall one member offering me the following advice "when you talk to people drink tea with them, not coffee or water but tea. Tea is important". Offering tea seemed to be a welcoming gesture in the community and to refuse was viewed as rude.

The research protocols for many Indigenous organizations include statements about the access to research findings and the data collected during the project (e.g., Dene Cultural Institute, 1991; Inuit Tapirisat of Canada, 1993). In discussions, the Lands and Resources Secretariat and I decided that all of the data I collected during this project would be housed with the MCFN. This ensures that the community has access to the data I collected as well as the fact that the community retains control over future requests to gain access to the data. Access is not simply making documents available to communities but involves developing materials in ways that are interesting and readily available to community residents and catalogued in a fashion consistent with existing Moose Cree cultural categories. In order to ensure confidentiality of sensitive data, I approached all participants before their transcripts were handed over to the MCFN. I discussed their interviews with them and offered them copies so they could remove any sensitive material. In most cases, my offer of interview transcripts was declined and participants asked that I remove material that I felt was inappropriate. In these few cases, I discussed the material with the individual before I cleaned the transcripts.

The results of NTFP valuation studies are often presented in terms and in forums (e.g., academic publications) that are inaccessible to research participants. "The biggest criticism that study participants make of those doing research into aboriginal problems is that they never give any feedback" (Montour & Macauley, 1988, p. 20). This failure to share findings and research data from studies done in Moose Factory is exemplified by the LRS' request that I compile a bibliography on previous environmental studies and bring copies of these reports and articles to Moose Factory. I chose three different methods of disseminating the preliminary findings of the research including interviews, presentation at community meetings and a write-up in the community newsletter. I re-interviewed six of my participants. During these interviews, we discussed the appropriateness and accuracy of the seven categories. I presented the seven categories at a variety of venues, i.e., the elders centre, trappers association meeting, Lands and Resources Secretariat and an open community meeting. The presentation of my research findings at a community meeting would serve as a way of disseminating the broad findings as well as re-establish my presence in the community after an eight-month absence. The research findings were not simply reported back to the community; the community has been involved in the interpretation of the results. Macaulay et al. (1998) note that "involving participants in interpretation of the results usually brings richer contextual information and increasingly meaningful conclusions" (p. 105).

Multiple Voices in the Field of Values: Bear, Geese, Moose Cree and Me

In Chapter 1, I briefly mention the difficulty of using terms such as existence, option, quasi-option, bequest, and vicarious to describe NTVs. The use of this specialized language resulting from sophisticated or 'scientific' methods are often mysterious and alienating to community members (Aubel, 1999). The inaccessibility of research, both in regards to language and physical storage location, results in the non-use of the findings. In this section, I will briefly consider how values of beaver and geese are described by members of the Moose Cree and why I have chosen to use seven terms to describe these values. In order to place myself within this project, I also include aspects of my journey to Moose Factory in this section.

My most meaningful insights that I had into the values of beaver and geese were those I had in the bush. For example, I learned the most about social relations when I spent a spring goose hunt with a family at their cabin. For 4 days, I lived with six members of the family in one room and participated in a variety of goose harvesting activities, e.g., waiting in the blind, plucking and cooking goose. I have included photographs in various sections throughout this document in deference to the power of the non-verbal. However, the focus of this paper is how members of the MCFN would articulate the importance of beaver and geese to policymakers, forestry industry, governmental employees and resource managers.

Hammersley & Atkinson (1995) define 'observer-identified' concepts as categories that are ethnographer-applied rather than participant-created. These categories can be newly created by the researcher, or based on existing categories in the literature, "general common-sense knowledge and personal experience" (Hammersley & Atkinson, 1995, p. 211). The seven categories that I used are a combination of all these, e.g., social relations and personal qualities are based in the literature (see Rolston III, 1985; Scott, 1987 respectively). Sharing, knowledge and health were terms that people used when talking about the values of beaver and geese. Continuity and self-sufficiency were not terms used by participants. However, I thought that the categories fit the range of topics that people discussed as agreed upon in my follow-up meeting with members of the MCFN to report preliminary findings of this study.

I validated these seven categories by returning to the community and discussing them with participants. Comments that I received from participants included the importance of underscoring the holistic notion of health and the interlinkages between the Moose Cree and their environment.

Convincing arguments have been made to support the idea that the positivist construction of ethnographic objectivity is a myth (Harding, 1991; Peterson, 2000; Rosaldo, 1989). Brewer (2000) calls for the representation of "the polyphony of voices in the field" (p. 124) and states that reflexivity encourages "the textual representation of the multiplicity of perspectives of subjects in the field" (p. 126). In the following chapter, I have attempted to represent multiple voices in the text through direct contextualized quotes from a number of my participants. The representation of multiple voices involved in ethnographic research is part of the postmodern democratization of ethnography (Ahmed, 2000) which involves deconstruction of the ethnographer's authority to speak for, and represent, research participants because reality is a construct and fragmented (Clifford, 1986).

My current interest in non-timbers, forestry policy and the potential impacts of commercial forestry is a direct result of my work with a Mayan women's weaving co-operative in Guatemala. The project was aimed at understanding the social and ecological impacts of the use of natural dyes by the co-operative. Months into the project it became apparent that the commercial forestry venture surrounding their village had altered the social structure of natural dyeing and was threatening the co-operative's access to the plants and trees. The women could no longer go to collect dyes because the area around their village had been clear-cut for agriculture and by forestry companies.

A year after I completed my work in the sub-tropics, I received funding to conduct research on forestry policy in the Philippines. I was interested in how regional forestry-related policies affected community development based on NTFPs. After spending a month in the libraries and speaking with government officials, I visited many rural communities on four different islands that had projects ranging from bamboo furniture to palm frond baskets. During one trip, I had time for reflection as the community was a four hour walk from the nearest road. I was struck by the different forestscapes that had been part of my world-wanderings. I use forestscapes to refer not only to the physical structure of the trees and their ecosystems but the socio-cultural constructions of forests. I wrote in my journal that night (May 15, 2001),

> I remember fragments of the different forestscapes- like a collage. One woman in Guatemala told me the story of how she went for a walk to collect plants in the forest during the civil war. She heard voices and was certain that it was the military who were going to brand her a rebel and take her away if they could catch her. She said that she ran and ran home and when they asked where she had been she said at home. A younger woman from the same village recounted a story of how she and her siblings would go to play in the forest. She also remembers the time in her teens when the forest became part of where she would go to work picking coffee. My own memories of the forests at home (in Canada)- huge pine trees. In gramma's back yard, she tells us that each time we (grandchildren) got a tree at school to plant we'd bring it for her to plant. She can name all of the trees in the backyard. The pine forests are so big compared to the ones I have seen here. A man showed me how to make bark cloth… another showed me how to get water from bamboo.

The themes that run through my narrative include life, family, fear… reflecting the idea that there really is more to forests than simply the trees. Unfortunately, the circumstances in the Philippines were not conducive to continuing my research: the kidnappings at the hands of the Abu Sayyaf and the riots protesting the criminal proceedings against former President Estrada made communities reluctant to work with an outsider. I returned to Canada to consider the future direction of my research program.

After a number of months talking with First Nations and individuals working in forested communities, I was put in touch with project director of the project entitled "Moose Cree Forest Knowledge Network" (Sustainable Forest Management Network, n.d.). I was invited to go to Moose Factory and discuss how my interest in NTVs could enhance the project findings. I spent four days during that preliminary period in Moose Factory talking with people from the community and the individuals working in Lands and Resources who were collaborating on the project. I received a favourable response to work with the MCFN on values of non-timbers.

I returned to Moose Factory in September, 2002 and remained for a year[27]. My first night I wrote in my journal, "It's exciting to be here. I wonder what things I will learn?". Aside from learning about NTVs, I learned much about myself and living in an area unlike anyplace I had lived. I drove a snowmobile across James Bay in -45°C and learned firsthand the effects of frostbite. I learned how to build a fire on river ice. I learned how to set up a blind for hunting geese. I learned about being observant and identifying the marks of a bear that has recently passed by. I attended funerals, community memorials, feasts, dances and many other community gatherings. The end of my year in the community coincided with 'The Gathering of Our People', a week long event " that celebrates Our Community, Our People and Our Culture" (Moose Cree First Nation, n.d.) through workshops, presentations, dance, song and a feast. As I took my seat at the feast, I was glad to be there and glad to have been part of the community but I thought about the fact that even after spending that much time in the community, attending community events and talking to Moose Cree individuals I would never truly belong to that community.

Peterson (2000) notes "there is no way for the intellectual (or anyone, for that matter) to crawl out of their own skin… (we) are conditioned by our languages and the society, culture and age within which we live" (p. 49). I wrote this section as a way to reflect on my involvement with the Moose Cree First Nation. As with all my cross-cultural experiences, I learned a great many things. Sharing is the most important thing: who I am, where I have been while being open to new experiences and ideas.

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[27] I returned home for a month and a half at Christmas and three weeks in May, 2003.

CHAPTER 4 FINDINGS AND DISCUSSION: VALUES OF BEAVER AND GEESE

Introduction

The activities of harvesting beaver and geese occur simultaneously in the cultural, social, economic and physical environments. The complexity of linkages of harvesting activities is reflected in the following statement from a Moose Cree member: "All things in the environment are interconnected and affecting one, affects all others, such as water, animals, birds, plant life, people and air". In order to understand the values of beaver and geese in a holistic manner, seven themes of values presented in this chapter include sharing, knowledge, continuity, social relations, personal qualities, self-sufficiency and health[28].

Seven Values

The Cree ethic of **sharing** or redistribution of food is well-documented (see Flannery, 1995; George et al., 1993). Any meat, whether geese or beaver, in excess of what an individual family uses is given to elders. The elders may be family members such as a grandparent or parent, or they may simply be individuals residing in the community. Usually the meat is distributed to elders who are unable to obtain their own wild meat due to illness or declining health. The hunter who shares meat and other foods with elders believes he will receive long life in turn. A number of participants related this belief and recounted stories about their parents sharing meat with elders and impressing upon them at a young age the importance of this activity. Sharing meat with elders is part of fulfilling social obligations as a member of the Moose Cree. Further, sharing meat, as an act of respect, contributes to strengthening cross-generational bonds.

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[28] The order of the values is random. In talking to individuals about the importance of values and potential relative ranking of the seven values, I received a number of negative replies. Participants were concerned that ranking the values would detract from the importance of individual values and the holism of the values as a group. I feel that it would be inappropriate for me to impose ranks on the values in light of comments from my participants.

Sharing wild meat is not restricted to elders or family members as neighbours; workmates or friends within the community may be recipients. As noted above, illness and infirmity are two reasons for the inability of people to participate in the hunt. The cost of spring goose hunting is prohibitive for many people because it takes place during spring thaw when helicopters are the only method of transportation to camp. Also, individuals may not be able to take time from work to hunt or trap. The inter-community bonds highlighted by sharing wild meat are illustrated by the donation of meat to community gatherings that take place throughout the year. During a community feast as part of Gathering of our People[29], hundreds of people consumed over forty geese and four beaver donated by community hunters (see Appendix 2, Photo 1).

The meat from beaver and geese are part of ceremonies that take place throughout the year. The celebrations may include family commemorations such as birthdays, weddings and anniversaries. One elder, married for fifty years to her husband, said that she "got 56 geese this year… big feast on my wedding anniversary I guess". Beaver and geese are also consumed during feasts held after a child's 'walking-out ceremony'[30]. Celebrations also involve the whole community such as 'Gathering of Our People' or 'Cultural Day' at the high school.

A *shapotawan* is constructed for cooking during large gatherings and feasts. Geese and beaver are suspended from rafters of the *shapotawan* by a length of string and roasted over an open fire. This method of cooking, called *sikabon*, requires close attention as the meat must be continually spun in order to ensure even cooking. During the three hours it takes to cook the meat, women sit and spin the geese over a fire while children and youth wander in and out of the *shapotawan* (see Appendix 2, Photo 2). Feasts and celebrations as a time for sharing food are also a time for telling stories, sharing experiences and knowledge.

Berkes et al. (1992) state that "among the Omushkego Cree of Western James Bay… **knowledge** is based on the tacit understanding that a person or a family has a store of information, including ecological information, that is based on their life experience and the life experience of ancestors who lived and learned on the same land" (p. 7). This knowledge includes specific knowledge of species, management of human activities related to beaver and geese, and general life experience. Knowledge also includes cultural knowledge, survival skills, ecological knowledge

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[29] The gathering is a week long annual event that includes pow-wow drummers and dancers, musicians, cultural events, a feast, recreational activities, arts and crafts and storytelling (Moose Cree First Nation website).
[30] For a detailed description of the ceremony see Tanner (1979).

and general life lessons. Activities involving beaver and geese harvesting and preparation facilitate knowledge transfer between individuals (see Appendix 2, Photo 3).

One hunter stated that he went goose hunting "with my dad and we were taught how to hunt and what to shoot… it's important that they shoot the larger geese that are coming into the blinds because the smaller ones are the females that carry the young". During a demonstration for youth, a trapper discussed the habitat and behaviour of beavers while demonstrating the proper method of skinning the animal. He stated that "these marks [on the skin] are from other beavers. There are too many in that area and when that happens they start fighting". These two statements are only two examples of the vast knowledge and experience that Moose Cree members have in regards to specific knowledge of beaver and geese (see Appendix 2, Photo 4).

In regards to trapping and hunting areas, the principle of rotation was underscored by a number of participants. One elder said that,

> You never camp, never hunt in one area more than a year you know 2 years at the most. Then you let the animals grow here and not disturb it for a couple of years anyways and then you come back. You know it's to give the animals a chance to breed.

Rotation of the trapping areas, or fallowing in agricultural terms, is a common practice among the Cree (Berkes, 1999; Berkes et al., 1992; Feit, 1986). Feit (1986), in his work with the Cree, documents that beaver harvested from a rested area is greater than an area that has been continually trapped.

The majority of participants recognize 6 seasons; fall, freeze-up, winter, spring, break-up and summer (see Appendix 2, Photos 5 to 7). The changing tides, ice floes, violent storms and freezing temperatures are a few of the forces in nature that command respect. A story related by a number of people in Moose Factory is about three teachers from the 'South' (non-Aboriginal) who went out hunting. The area they were hunting in is in a well-known flood plain and a dangerous area. The area flooded while the inexperienced hunters were in the bush and they were forced to take refuge in the trees for many hours. In the end, one lost his life, another his legs and the third sustained minor injuries. This tragic ending underscores need for intimate knowledge of the natural forces and the area. "Weather is a strong natural force that traditional Cree and Inuit intrinsically respect and have learnt to accommodate in their lives. In doing so, they have acquired the interpretive skills and adaptive strategies necessary for responding to changes" (MacDonald, Arragutainaq, & Novalinga, 1995, p. 15). As one woman said, "I think it's a good experience for young people to try that, to go trapping because they learn all the skills when they're out there. How to be out there... and all the things that are involved like walking and directionals, like which way you're gonna go". Taking part in harvesting activities exposes youth to knowledge necessary for their survival in the bush.

Knowledge transmission is not restricted to ecological knowledge or specific knowledge related to beaver and geese. Elders and parental figures discussed sharing their experiences with youth while engaging in harvesting activities. Of one hunter's spring goose hunt with his adolescent nephew, he said that,

> we had some talks in the blind about the consequences of the life here… it's changing so much from the time I was hunting at his age. All that talking to him about things that can develop should things go wrong in the community in his life you know if he gets involved in stuff. The consequences that he could lose the right to hunt to feed elders in the community because of the laws. I talked to him about that when we were out there you know just to keep that in mind when he's living the life in the community. You know there are consequences if he does break the law.

The isolation of the camp and long hours in the blind provided a non-threatening setting for sharing experiences and discussion about sensitive topics beyond those related to survival in the bush such as drug use (see Appendix 2, Photo 8).

In a statement entitled "Balancing Interests: Protecting Traditional Lifestyles While Encouraging Sustainable Development, the Department of Lands and Resources of the MCFN (2003) states that "for most Cree people, living in the bush is a cultural value in itself. This is where they are best able to pass on the Cree language, and the knowledge and values of what it is to be Cree to the younger generation" (p. 3). The transmission of these aspects of culture, knowledge, experience and engaging in beaver and geese harvesting activities provides continuity. **Continuity** as a value has many dimensions as it includes connections to the past including events and people (see Appendix 2, Photo 9). Traditions[31] are tangible manifestations of continuity through time and across generations.

The value of history is highlighted by one participant who said that:

> I'm not even sure where my dad was born… people never talked much about history. They never shared and I feel really bad about that because we lost a lot of history. I think that's a sad part you know not to know all these things that we should have known. A lot of people are gone so they can't tell us anything.

Placement in the residential school deprived this elder of the chance to get to know her parents well. She is actively involved with her own grandchildren to ensure that she shares her experiences and they do not feel the same sense of loss when this knowledge is no longer available.

Historical events are woven throughout narratives of harvesting trips. One elder described having to walk for hours from her family's spring goose hunting camp to another camp

> I was only about 10 years old and that's the time the war was on. There's only one person who had a radio over there and I would take a message to this other person [and] ask him how is the war now going on. I would take the note back to my family because my uncle was in the war so my late mother wanted to hear about it because not very many people had radios that time ago.

One woman recounted going out trapping for her 'honeymoon', another individual gave birth to her second child while on a trapline, and one elder talked about the first time she left her children at the residential school when she and her husband went trapping in the winter. Personal, local and world events are all linked to memories of harvesting trips.

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[31] Traditions are defined as "a human potential that involves… shared practices, and a commitment to the continuity of both the practices and the particular emotional/spiritual relationship that nurtures them" (McDonald, 1997, p. 60).

A tradition that is being carried on by a number of Moose Cree families is the decoration of a young male hunter's first Canada goose. The head is dressed and beaded by an adult female, usually their mother or other female parent. One participant stated that the head of the first goose is decorated so "that person would become a good hunter [and] in recognition of respecting that [they've] taken their first goose. If they grow up, I guess they'll return [to the bush and] their hunts will be good and they'll get more birds when they hunt".

Traditions are fluid and involve renegotiation and reinvention (McDonald, 1997). Elders recall their parents and other adults hanging beaver bones in trees or returning the bones to water as a sign of respect for the animal (Berkes, 1999; Tanner, 1979). The Moose Cree believe that hunters do not capture or kill animals because it is the animal that decides whether or not it will be caught (Berkes, 1999). Although the practice of hanging bones has fallen into disuse, respect for the animals is still shown in different ways.

> Never destroy just for the spite of it. I teach my grandchildren if you must shoot something eat it. If you're going to shoot something for target practice or just to destroy it, don't. They shot shorebirds and you make them eat them. They ate it you know. I told them "you shoot a crow and I'll make you eat it".

Showing respect to the animal by making use of the whole animal and not hunting simply for sport ensures that animals will give themselves to hunters in the future.

The sentiment remains the same although the form for showing respect for animals has changed from the historical practice of hanging bones.

Discussing goose hunting, one participant stated that "I feel it's important because it's something you're carrying on… something that was done before like by my parents and by my grandfather and stuff. You go out there you're not just hunting you know you're connecting". Harvesting geese, for this participant, gives him a sense of continuity as he is taking part in an activity that was practiced by his ancestors. Further, these activities also facilitate the continuity of social relations (see Appendix 2, Photo 10).

One participant described hunting geese as an act of remembrance. She said that

> we always remember when we were camping with our mother and father. How nice it was and how we all got together. It brings back the memories when we all get together… it brings back the memories of our parents I guess because that's what we did when we were younger. With our family, with our mother and dad, I guess maybe because it feels like, we feel like as if our mom and dad are still there when we go camping together. We always say this is just like when we were young the only thing is that our mom and dad's not here.

By goose hunting with her brothers and sisters in the area where they camped with their parents, this elder rekindles ties with her deceased parents.

Harvesting beaver and geese strengthen and reaffirm **social relations** in the community through the sharing of the meat and participation in the activity. These relationships are inter-familial and cross-generational. As described under sharing, the social networks also extend to include non-kin in the community.

The elementary and high schools have a week long ‘hunt break’ in spring and fall so youth can accompany their families to goose camps. The usual goose hunting party consists of a husband, wife, children and, if applicable, their families, although up to ten years ago it was uncommon for women to accompany their husbands. A goose camp may consist of more than one family; often siblings and their families will erect their structures in the same area. The importance of family is illustrated by the fact that the majority of participants went goose hunting with their families. One participant stated that at their goose camp “we (husband and children) spend more time, more real time with each other. You know to talk amongst ourselves instead of everybody doing their own thing like when you’re here (in Moose Factory)”. Uninterrupted time with family at spring and fall goose camps is important to reaffirming or re-establishing bonds between parents and children.

Although trapping beaver is undertaken by a family group, the activity differs from the goose hunt in that it is usually undertaken by two people. Family trapping groups in Moose Factory can be categorized in two ways. First, in cases where traplines are close to community and fur sales are not the primary source of income trapping is generally done by two males from the same family, e.g., father-son and uncle-nephew. The other family group is a husband and wife, usually with grown children, who remain in their bushcamp trapping for the whole winter. In both of these cases, the time spent in the shared activity contributes to the relationship.

One elder described his family as fragmented with his children scattered all over Ontario. He compared this with his youth "we were all very very close… we hunted together we travelled together". Taking his grandchildren goose hunting and trapping with him is one way that he is attempting to re-unite his family.

Through observing parents and elders, children and youth develop **personal qualities** necessary to harvest beaver and geese. The successful harvesting of beaver and geese requires a number of personal characteristics of the harvester including patience and hard work. Potential hunters must demonstrate they are responsible and will not endanger others in their hunting party with irresponsible behaviour, e.g., taking random shots. The majority of male participants stated that they began actively participating in hunting and trapping in their early teens. Attributes such as patience, hard work and responsibility strengthened by the hunt are all transferable to daily life.

Patience is necessary for hunting and trapping. One elder said that he "used to enjoy it [goose hunting] but sometimes it's frustrating to have to wait two or three days and you don't get anything. Sitting in the blind calling away, geese are flying around all over and you're not getting anything". The schools are out for one week for the spring hunt meaning that families need to maximize the time that they are hunting. The frustration also may stem from the fact that at the time the break is scheduled the geese may not be migrating. Participants stated that they often spent from dawn until dusk in the blind, with only a break for lunch. Patience is also required to wait for the right opportunity to shoot so the hunter is within the appropriate proximity to kill rather than harm the animals.

Many parents thought it was important to instill a work ethic in their children. One woman described a time when she and her family went to camp and were at the mercy of the tides.

> So you have to carry all your stuff in there to set up. So, you're back and forth…try not to take too much stuff when you're going to those kinds of places. You have to carry that out with the tide you know. It's true what they say the tide waits for no man. Sometimes when we're out there we're not quite ready and we're dragging our boat trying to get it in the water before the tide turns. We had a few funny times like that [when] we're just pulling the boat and the boys are working really hard and we're all sweaty. Those kinds of experiences, I thought, those were for them to see [experience].

A good work ethic is encouraged and strengthened by participating in activities related to hunting geese (see Appendix 2, Photo 11). Hard work is evident in rising early, moving equipment to the blind and cleaning the equipment and animals after the hunt.

A sense of responsibility is another characteristic cultivated by participation in goose hunting. One elder talked about learning to hunt:

> I have to say it was my father who taught me a lot about safety you know how to handle a gun safely, what you shouldn't do with a gun that sort of thing. Gun safety was the biggest part of the training to become a hunter and second is the respect for what you are shooting you know you don't go kill something if you're not gonna eat it.

Through hunting geese, he learned how to handle a dangerous weapon responsibly. Further, respecting the game is part of a Cree hunter's responsibility in their interactions with wildlife.

Patience, hard work, and responsibility are all characteristics considered critical for participation in harvesting activities related to beaver and geese. The cultivation of these characteristics increases the success of an individual's hunt that, in turn, contributes to **self-sufficiency**. Self-sufficiency, or reliance on oneself, is a value discussed by a number of participants. Self-sufficiency as a value has a number of dimensions. The economic aspect of this value is the ability to provide shelter and food for oneself and one's family. The physical dimension of self-sufficiency is the ability to survive the unforgiving elements of the subarctic. Self-sufficiency also applies to the Moose Cree First Nation as a whole and relates to the FN providing for all of its members.

Tourism and construction are both important aspects of the local economy in Moose Factory (Woodman & Ghebremichael, 2000). Hunting and trapping supplement seasonal employment opportunities. These activities also provide an alternative to paid employment as one man stated that "when you have no money you eat geese, you can't go buy something from the store".

In 1991, the average household income in the Mushkegowuk region was estimated at $25,500 (Berkes, 1994; George et al., 1996). The importance of wild meat is evident in estimates of consumption valuing $7,030 (Berkes, 1994) to $8,420 (George et al., 1996) per household. Hunting waterfowl, such as Canada geese in the spring and Lesser Snow geese in the fall, is characterized by high rates of participation[32]. George et al. (1995) report that 36,391 kg or $296,222 of waterfowl are harvested per year. In a year, 4,425 kg or $44,624 worth of beaver and muskrat is consumed per household.

Of the research participants, only three males stated that their primary occupation was trapping. All of these men were elders who have been unable to go out into the bush for long periods of time because of illness. Currently, trapping is not viewed as a viable full-time occupation. In the 1980s, sales in the fur industry dropped dramatically as a result of public anti-fur sentiment (Emberley, 1996). Although the fur industry is recovering, average prices are still low according to Moose Cree trappers and they note that it is impossible to support a family on their average trapping earnings.

Trapping, for some Moose Cree, provides possibility for economic self-sufficiency in face of higher unemployment rates, lower wages and fewer economic opportunities compared to the Canadian average (Royal Commission on Aboriginal Peoples, 1996). One participant stated that:

> it's more important to teach young people about that kind of life [trapping]… to get back on the land. Being where they are more comfortable, more at ease but somehow trying to come up with a living from the land. You know in the bush rather than collecting welfare. Either that or go to school but we know there are a lot of kids who won't go to school. So, let's give them the opportunities to earn their way of life.

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[32] All participants in study reported that they currently participate in goose hunt with the exception of four who do not because of infirmity. This number is similar to the 81% participation rate of goose hunters in George, Berkes & Preston's (1995) study.

The ability to fulfill basic needs means more than simple economic self-sufficiency. Unemployment and the resulting reliance on social assistance programs has a negative effect on psychological well-being (Kirmayer, Boothroyd, Tanner, Adelson, & Robinson, 2000).

The sales of crafts provide a number of women with supplemental income. Beaver skin is used for the trim on moccasins, mitts and for beaverskin hats. Goose down is used as insulation and stuffing for blankets and pillows. The feathered wings from a goose are decorated and used as fans or dusters. A number of outlets exist for the sales of the crafts including two shops operated by the MCFN. Woodman & Ghebremichael (2000) note that approximately 40 people sell products though craft stores and earn approximately $1,500 a year each.

Self-sufficiency is also about the harshness of life in the subarctic and an individual's ability to take care of themselves and others. Tides, rapidly falling/freezing temperatures, melting sea ice and large animals are woven through stories of daily life. One elder told me about an occasion when he and his father went trapping during the spring.

> At this time, the end of March we came down. We came back and we reached the big lake- we have to go across the big lake. At the mouth of the river, big lake, I was pulling the load that was the canoe on the sled and we got 2 dogs. They pull it and I pull it. My father was walking he was quite a ways. I stop and I roll my cigarette and while I roll my cigarette the dogs are jumping, jumping. I was wondering why they jump over there- where my father was and I look over there. I don't see my father I only see just a little thing there on the ice. I took one paddle and I run with my rope and I run. I run and I got about 40 or 50 feet and he says

> don't come near. I ah I throw slowly to him and I said put that rope under your arm. I pulled that, I pull, I pull and he got out this time all wet. He walked over to me. I could've lost my father.

Life-threatening experiences, such as the one above, were all told with great equanimity. Danger was always downplayed but served to underscore the importance of individual's preparedness for survival in the bush.

The idea of self-sufficiency is also important to the Moose Cree as a community. Political empowerment, economic development, and the reorganization of social services under Aboriginal control are all aspects of self-sufficiency leading ultimately to self-governance, as discussed by the Royal Commission on Aboriginal Peoples (1996). In the early 1970s, the Department of Indian Affairs transferred responsibilities for economic development to the Nation (Moose Cree First Nation, n.d.). The Department of Economic Development and subsidiaries such as the Cree Outdoor Discoveries and Adventures were created as part of the MCFN's movement towards economic self-reliance. The Washow James Bay Wilderness Centre, Tidewater Goose Camp, Kesagami Lodge and the Cree Cultural Interpretive Centre are current tourism initiatives that focus on providing educational, ecological and culturally-based experiences in the Moose Cree territories. Skiing on James Bay, participating in a spring or fall goose camp and winter trapline tours are among the expeditions offered by the MCFN.

Beaver and geese contribute to the economic well-being of Moose Cree members and the First Nation as pelts, wild meat and for crafts. Their role in the economic **health** of the Moose Cree is matched by the role they play in the individual health of community members. On average, members of First Nations die younger than other Canadians and "sustain a disproportionate share of the burden of physical disease and mental illness" (MacMillan, MacMillan, Offord, & Dingle, 1996). Suicide, substance abuse and violence within families are some of the social concerns that were identified by First Nations during the sessions of the Royal Commission on Aboriginal Peoples (Royal Commission on Aboriginal Peoples, 1996). Harvesting geese and beaver contribute to the health of MCFN members. The different aspects of health discussed by participants include medicinal, physical, increased control over health, emotional and healing.

For those MCFN members who combine traditional and Western medicines, beaver and geese play a role in the healing of physical ailments. Participants noted a range of parts of beaver and geese that they used for their medicinal properties. Elders often asked trappers to save specific parts of the beaver for the preparation of medicines. The consumption of beaver and geese also promotes health as one elder stated "when you eat wild meat there's medicine in there because all the animals eat all that medicine out there". Harvesting and preparation activities are believed to contribute to good physical health and longevity. One couple in their 70s who reside in the bush hunting and trapping attribute their youthfulness and good health to their activities in the bush.

Diabetes afflicts approximately 6% of Aboriginal adults (MacMillan et al., 1996). One participant, a diabetic, felt that preparing and consuming wild meat was a way for her to control her diabetes. This control was important to her as the selection in the local store was extremely limited and favored what she termed 'unhealthy sugars'. Wild meat provides Moose Cree consumers 97 grams of daily protein that is almost double the daily intake of 49 grams recommended in the Canadian nutritional guidelines (George et al., 1996).

Adults are not the only population within the First Nation at risk for health problems. Aboriginal youth are three to six times more likely to commit suicide than the Canadian average (Kirmayer, Simpson, & Cargo, 2003). The Moose Cree created recreational and traditional skills programs (e.g., outdoor education and the cultural program) to involve youth in healthier lifestyles, located in the same beaver and goose habitat surrounding their community.

Of her work with the Anishnabek of Northern Ontario, Wilson (2003) states that "activities such as hunting and harvesting are not only of nutritional benefit, which supports physical health, they also allow individuals to connect spiritually with Mother Earth, the Creator and spirits while being on the land" (p. 90). This sentiment is also valid for members of the MCFN harvesting beaver and geese. A feeling of closeness to spirits was described by a number of participants. One male who is very active in harvesting activities said that "this [the bush] is my home. This is where the creator intended for me to be". The nature of the spiritual experience and the value of this experience vary for each individual and their beliefs.

The importance of harvesting activities to an individual's well-being is illustrated by one individual's inability to participate in trapping and hunting. An unwell spouse restricts the ability of the other individual. Elders find that remaining in town is difficult while others are at their hunting/trapping camps. One elder said that "it's something here [heart]. I don't know, I have a hard time sometimes and I cry". The inability to participate in harvesting activities has a negative effect on some MCFN members' personal well-being.

Kirmayer et al. (2000) report that Cree who spend more time in the bush have less psychological distress. Harvesting activities encourage the holistic health of individuals by providing exercise, healthier food and medicines. Hunting and trapping also contribute to the well being of individuals as part of a healing process. The deleterious effects of the residential school system and forced residence of First Nations on reservations is well-documented. Bishop Horden Memorial School[33], the residential school in Moose Factory did not close its doors until 1963. One individual who remembers living in the residential school said "I'm not looking back anymore. I'm trying to move forward and say let's go to it. You know there are resources for us such as if we have a trapping program that we can tap into". According to their experience, trapping has been part of his healing process and he believes that it may help others to deal with past and current struggles.

The recreational aspect of harvesting geese and beaver relates to the escape value. As one woman said "when we went camping it was more like to get away from the island for some peace and quiet". The majority of participants discussed the importance of getting away from the noise and activity in the community and state that their need to escape was fulfilled by going to camp to engage in harvesting activities. Even though these activities provided a retreat from life in Moose Factory, the recreational value was secondary. For example, hunting geese was relaxing for a number of participants while at the same time they were able to provide food for their families. An important point emphasized by a number of participants was that geese and beaver are not harvested simply for sport. As noted above, this would be considered wasteful and hence, disrespectful to the animals.

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[33] Also known as Moose Factory Indian Residential School and Moose Fort Indian Residential School.

Discussion

The seven themes of value the Moose Cree associate with beaver and geese are distinct in the context of the non-timber value literature reviewed in Chapter 2. Although the findings discussed above are not duplicated in any other case studies, the themes, i.e., continuity, health, social relations, character building, knowledge and self-sufficiency, share similarities with some of the NTFP values categories previously discussed. The gap between the categories of NTFP values in the literature and the findings discussed in detail above underscores the need for a holistic approach to Aboriginal NTVs.

Rolston (1985) states that "Forests, prairies, and ranges ought to be preserved as souvenir places for each generation's learning (however secondarily, playfully, or critically) of our forefathers' moods, learned there quite as much as in the

Minuteman Historical Park[34]. They provide a lingering echo of what we once were, of a way we once passed" (Rolston, 1985, p. 29). This sentiment regarding the historical value of wildlands shares an element of continuity, i.e., the importance of the past. However, Rolston's historical category relegates landscapes, activities, and events to the past. Continuity involves relationships between the past and present whether individuals, families, activities, or cultural events are involved. Cruikshank's (1994) description of oral histories provides insight into the notion of continuity as a persistent link between past and present. She describes these histories as "facts enmeshed in the stories of a lifetime provide a number of insights about how an understanding of the past is constructed, processed, and integrated into one's life" (Cruikshank, 1994, p. 408). The past is not separated from the present but part of it through an individual's identity, memories, and sharing activities, e.g., story-telling or knowledge transmission.

Therapeutic and religious values are described by Rolston (1985) in his theoretical paper on the values of wildlands. The value to emotional health is supported by Kirmayer et al. (2000). Psychological distress, i.e., suicide, depression, violence, and alcohol, is less for James Bay Cree individuals residing in Quebec who spend more time in the bush. Therapeutic and religious values are only two aspects of individual health. The Royal Commission on Aboriginal Peoples (1996) refers to "the concept of health used most often by Aboriginal people, [as] encompassing the physical, emotional, intellectual and spiritual dimensions of the person and harmonious relations with social and environmental systems that are themselves functioning in a balanced way" (Royal Commission on Aboriginal Peoples, 1996, Footnote 4). This holistic concept of health is apparent in the inclusion of economic, physical, and emotional as values of beaver and geese that contribute to the well-being of Moose Cree individuals, and the first Nation.

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[34] This park includes battle sites of the American Revolution.

In Scott's (1987) research with East Coast James Bay Cree, he notes that "the harvest and sharing of food animals is fundamental to the maintenance of Cree social relations and symbolic life" (Scott, 1987, p. 49). The relationships of hunters to the *paaschichaau uuchimaauch* or 'shooting bosses' (referred to as *okimah* by the Mushkegowuk Cree) are the focus of Scott's discussion on the social value of geese. Under this system, an *okimah* was "a hunt leader as well as a social and spiritual leader" (Berkes et al., 1992, p. 15) for a group of families that hunted in a certain area. By focusing on hunters, i.e., adult males, Scott (1987) provides a narrow consideration of social relationships under this non-operational system. By talking with women and elders, the Moose Cree data richer and provides a deeper understanding of the value of geese and harvesting activities to social relations between a range of individuals, and families in the community.

Rolston (1985) considers wildlands as critical to building an individuals' character. Character building is defined as "the challenge of self-competence, in teamwork or alone, with reflection over skills acquired and one's place in the sun" (Rolston, 1985, p. 29). Self-competence is an aspect of personal qualities that members of the MCFN described as values of beaver and geese. Character building, as defined by Rolston (1985), is missing a social dimension. Parents usually accompany their children, encourage, and guide them in activities that facilitate the development of qualities such as patience and responsibility.

The waterfowl knowledge that the James Bay East Coast Cree hold is described by Scott (1987) as a "sophisticated local knowledge about managing migratory goose populations- a body of knowledge and practice buttressed by an elaborate ritual and symbolic system which reinforces communal values and the psychology of stewardship" (p. 54). The experience-based ecological knowledge that has been accumulated over generations contributes to the effective management of goose populations (Scott, 1987). Aspects of this ecological knowledge, common to the James Bay East Coast Cree and Moose Cree as described above, are the location of each families hunting camps, respect for local nesting areas, numbers, size, and gender of geese to take. The findings of Moose Cree values of geese emphasize that the importance of knowledge transmission also includes general life experiences.

On the attitudes of British Columbians towards visual quality, Tindall (2003) notes that community sustainability is a significant variable. Community sustainability is defined in this case as economic diversity, stability, growth, and social stability. Defining community sustainability in terms of economic development, assumes that economic growth results in community and environmental well being. Loomis (2000) argues that Aboriginal approaches to development have resulted in increasing "awareness that the pathway to ensuring future well-being of humankind and the planet lies not in limitless growth, consumption and 'more market' but in a creative reintegration of economy, society and ecology" (p. 903). In the case of the Moose Cree, self-sufficiency, as a dimension of community sustainability, implicates the political, ecological, social and cultural environments.

Conclusions

The purpose of this chapter is to document the values of beaver and geese to members of the Moose Cree First Nation residing in Moose Factory, Ontario. Transcending the commonly cited categories, e.g., economic and cultural, the following themes are offered: sharing, knowledge, continuity, social relations, personal qualities, self-sufficiency and health. The holistic discussion reflects the complexity of the nature of values that members of the MCFN associate with beaver and geese. By way of a summary, three further points are offered including that value is a statement of relationship, values are communally held and value is part of the identities of individuals and communities.

Value is a function of relationships. The first type of relationship is among individuals within a family or community. Sharing meat is an example of relationship that is shaped by cultural expectations and social obligations. Through transmission of knowledge, young hunters learn the rules of the hunt, including co-operation, in regards to the boundaries of a families' hunting area. Harvesting activities also provide a continuity of relations with ancestors. The second type of relationship is those between individuals and the larger world. Economic value relates to the worth of beaver and geese within local, regional and national economies. Beaver and geese contribute to the subsistence of individual MCFN members, the sales of pelts and crafts supplement member's livelihoods and provide the basis for a number of tourism ventures. The role of beaver and geese in the community's pursuit of self-sufficiency is both economic and political. Economic independence based on successful and socio-culturally appropriate ventures is one avenue that would contribute to the First Nation's pursuit of self-governance.

The values of the Moose Cree First Nation is not an aggregation of individual values as value is not simply an individual's preference for one thing over another. Societies are not merely statistical aggregations of individuals engaged in voluntary exchange but something much more subtle and complicated… a society is clearly something greater than the sum of its parts" (Thurow, 1983, p. 223). The values of beaver and geese to the community are rooted in cultural beliefs, history and current circumstances.

The values of harvesting activities are part of an individual's identity as a member of the Moose Cree First Nation. Core cultural characteristics such as respect for living beings (Berkes et al., 1992), sharing and co-operation (Flannery, 1995; George et al., 1993) influence values. One participant described his need to trap as "something in me that wants me to get out on the land and go over there and be there in the bush". The values of beaver and geese, whether they are spiritual or relate to sharing, are an element of what it is to be a member of the Moose Cree First Nation.

CHAPTER 5 CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Summary

The overall purpose of the research is to document and explore the values members of the Moose Cree First Nation associate with beaver and geese. The specific values that individuals associated with these two non-timbers are described in detail in the participants own terms (see Chapter 4). These specific values were not unique to individual participants; a core of values contributed to their identity as part of the Moose Cree First Nation.

A human ecology approach enabled the exploration of Aboriginal non-timber values. The strengths of this approach to the specific question of Aboriginal non-timber values are threefold. First, the definition of value is not restricted to economic worth allowing a broad range of non-timber value themes to emerge from the research. Multiple ways of knowing as the source of values are recognized by a human ecology approach. Finally, the ability to explore the multifaceted context in which non-timber values exist encouraged an understanding of the linkages between values. For example, participants discussed self-sufficiency as a political and economic ideal, and mentioned that this value is applicable at the level of an individual level, and the First Nation.

I chose ethnographic methods as the most appropriate way to undertake research into Aboriginal non-timber values. I lived in Moose Factory from September, 2002 to August, 2003. During this year, I was able to travel to spring goose camp and travel a trapline in the winter. I interviewed 27 people over the time

I resided on the island. In April, 2004, I returned to the community after conducting a preliminary data analysis for a month to discuss the representativeness of the values.

The complexity of the non-timber forest values of the Moose Cree exceeded the expectations I had at the beginning of my fieldwork. I originally envisioned using Rolston's (1985) twelve categories of wildland values[35] as a guide. However, I found these categories too simplistic and compartmentalized. Transcending the categories commonly used by authors, e.g., economic' or 'recreational', I used participants own terms and describe sharing, knowledge, continuity, social relations, personal qualities, self-sufficiency, and health as Moose Cree First Nation values of beaver and geese.

Theoretical Contributions of Research

The theoretical contributions of this research on non-timber values of the Moose Cree First Nation are twofold. This research provided an opportunity to test the usefulness of the Human Ecology Web (Figure 2). This model builds on previous human ecology approaches combining theory related to ways of interacting with environments and the relationships between all of the environments. The 'web' encourages interdisciplinary research by providing an approach that focuses on human-environmental relationships within the specific context. Although the

Human Ecology Web was useful in guiding the research, the findings resulted in the reconceptualization of the model. Figure 4 represents the novel human ecology model for approaching Aboriginal non-timber values I developed in response to the research. The black spiral represents non-timber values: values are influenced by all of the dimensions, e.g., knowledge and culture. The lack of separation between the individual, and all the other dimensions reflects the interconnectedness of individuals and their environments. The indistinct placement of the individual also reflects an Aboriginal perspective that a person is one part of a "community of beings" (Berkes, 1999, p. 79). This model reflects the theme of interconnectedness that this research emphasizes: values, identity and harvesting activities are intertwined.

The use of a human ecology approach in combination with ethnographic methods was extremely successful in the case of Moose Cree values of beaver and geese. A broad range of values emerged from research. These findings fill a gap in the Aboriginal non-timber value literature. This document addresses the under-representation of Aboriginal communities in non-timber value case studies, and the focus of studies on single specific values, i.e., hunting, fishing, recreation or preservation of wildlife and wilderness. Further, the research results underscore the under-realization of identity, intra- and inter-generational relationships, and individual and community networks as a value of non-timbers.

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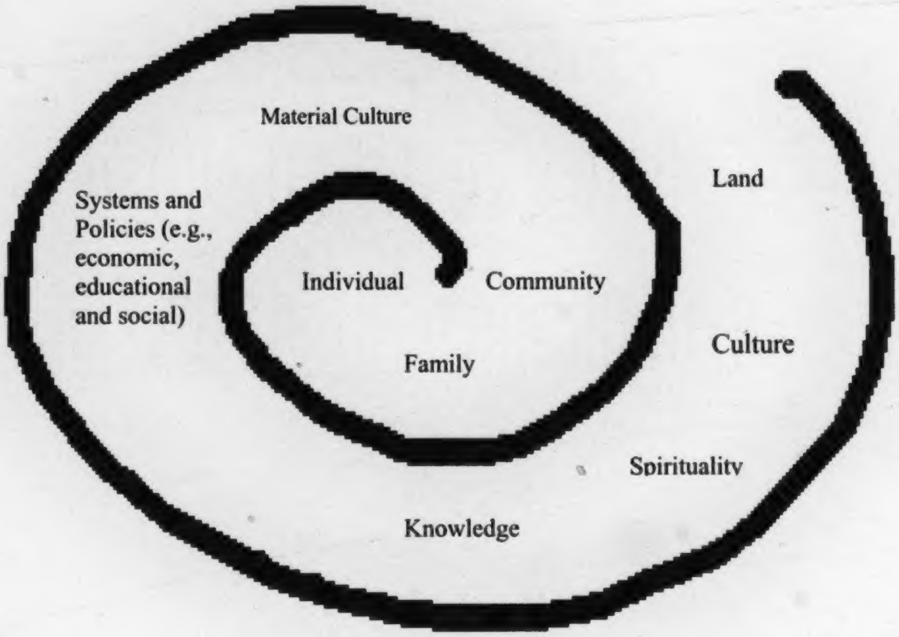
[35] Rolston (1985) describes the following values market, life support, recreational, scientific, biodiversity, aesthetic, cultural symbolization, historical, character building, therapeutic, religious and intrinsic natural value.

Figure 4 Human Ecology Perspective on Aboriginal Non-Timber Values


Material Culture
Land
Systems and Policies (e.g., economic, educational and social)
Individual
Community
Culture
Family
Spirituality
Knowledge

Recommendations to the Moose Cree First Nation

The results of this research contribute to the planning process of the Moose Cree First Nation. The participatory nature of the research process outlined in Chapter 3 ensured that the results are of practical use to the community. For example, the importance of goose hunting to the social, cultural, personal and economic well-being of the Moose Cree First Nation resulted in two recommendations. First, land should be set aside for goose hunting camps. The second recommendation is that a study should be undertaken to determine how the logging will affect the migration pattern of waterfowl and to minimize any negative impacts. The preservation of goose hunting encourages the retention and passing on of the associated non-timber values.

Policy-related Recommendations

Based on my research, I suggest that future research on Aboriginal non-timber values is critical and recommend that this research be completed in an inter-disciplinary manner that is inclusive of community partners. Chief Nathan Matthew of the North Thompson First Nation cautions that there exists an "insufficient recognition and protection of the unique Aboriginal ownership of, and attachment to, wild plants and their uses and that these concerns… should be attended to before there is a rush to market and develop these products" (in Mitchell, 1998, p. 359). The lack of understanding about the values, uses and locations of non-timbers must be addressed in an appropriate manner before forestry development occurs. The potential impacts of forestry development are far-reaching; the well being of individuals and the First Nation can be transformed, in positive and negative terms, along with the forestscape. The exploration of values must be completed in a broad holistic way. The potentially broad range of values and complex relationships between the value categories must be acknowledged for meaningful results. Documenting the range of values a group associates with a group of non-timbers provides a basis for focusing on, or measuring, a specific value or values.

Limitations and Challenges of Research

Ceremonial and spiritual uses of beaver and geese were excluded at the request of the MCFN. The ethical agreement that the Moose Cree First Nation and myself signed includes the following confidentiality clause: 'This principle recognizes that the community and individual participants, at their sole discretion, have the right to exclude from publication and/or to have kept confidential any information concerning their culture, traditions, mythologies, or spiritual beliefs' (see Appendix 1). However, the First Nation has the information that I collected on the ceremonial and spiritual uses of beaver and geese. This information may be useful to the Moose Cree in the future.

Another limitation of the study relates to the question of generalizability of the findings. This notion relates to the applicability of the findings to the larger population. In the case of my research, the larger population refers to Aboriginal communities in Canada as well as non-timbers in general. Kvale (1996) suggests that "naturalistic generalization rests on personal experience....leads to expectations rather than formal predictions" (p. 232). According to Kvale's reasoning, the questions as to whether the values of beaver and geese are representative of non-timbers in general, and to other First Nation communities in Canada are inappropriate. I would suggest that the seven themes of value of beaver and geese are useful as a guide for exploring Aboriginal non-timber values.

The biggest challenge that I faced during this research was internal as I continually questioned whether I, a non-Aboriginal of European descent, was the best individual to undertake research on Aboriginal forest-based values. The complexity of issues surrounding power and authority in research studies involving non-Aboriginals and Aboriginals is exemplified by the Bell debate. The 'Bell debate' concerns the article 'co-authored' by Bell and Nelson (1989), an Indigenous woman, about rape of Indigenous women by Indigenous men. "The debate at one level can be read as a debate as to who has the right to speak for indigenous women. Does the white woman who speaks about rape of indigenous women necessarily speak for those women?" (Yeatman, 1993, p. 239). Bell was "accused of creating divisions within the 'Indigenous community', appropriating Topsy Nelson's voice by citing her as a co-author rather than an 'informant', of exhibiting white imperialism, of exercising middle-class privilege" (Bell, 1996, p. 108). In order to lessen any imbalance of power, I approached ethnography as a collective endeavour (Sanders, 1999). This included discussions with the Lands and Resources Secretariat throughout, and prior to, my data collection phase. Further, I returned for a month a year after I finished my data collection to discuss my preliminary findings with my participants, and the Moose Cree community.

Suggestions for Future Research

As the potential for research in the area of non-timber values is vast, the following is restricted to three suggestions for future research. The Moose Cree First Nation's relationship with beaver and geese is complex. These non-timbers are integral to the well-being of individuals, families and the First Nation; economics, politics, health, and social networks are all implicated in the values of beaver and geese. In light of these values, a pressing question is whether the First Nation should support commercial forestry development in Northern Ontario or pursue other options for their territories. The choices related to the development of a forested area are diverse. The Haida First Nation provided the impetus to protect of the local environment and their culture from heavy logging in British Columbia through the establishment of the Gwaii Haanas National Park Reserve and Gwaii Haanas (Haida Heritage Site) in the Queen Charlotte Islands. A 1995 study on the economic impacts noted that "what was 'lost' from the economy on Haida Gwaii in the way of benefits from logging has clearly been replaced by the agreement[36], whether the measure is jobs or cash income… it's also clear that logging jobs have been replaced- if not surpassed- by jobs created in silviculture, tourism and protected-areas management" (in Wildlands League, 2003, p. 32). Tanizul Timber Limited, owned by the Tl'azt'en First Nation, manages a Tree Farm License in British Columbia. The Meadow Lake Tribal Council, representing nine First Nations in Saskatchewan, owns Norsask Forest Products. In 1997, the Canadian Model Forest Network numbered eleven with the addition of the Waswanipi Cree Model Forest guided by the Waswanipi Cree of Quebec. These four examples serve as guides for researchers aiding the MCFN in their pursuit of a balance between forest preservation and development.

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[36] Refers to the South Moresby Agreement.

Another avenue of future research relates to the values urban Moose Cree associate with beaver and geese. In the closing section of Chapter 4, I explore values as a component of Moose Cree identity. Of the 27 participants I interviewed, all of them lived on the island with the exception of two individuals who lived full-time in the bush trapping, hunting and guiding. As 1, 907 of the 3, 397 Moose Cree live off-reserve[37], I would encourage future researchers to explore whether, and to what extent, beaver and geese are significant to urban Moose Cree.

Finally, I would encourage research into the values of other non-timbers, e.g., plants or lichen, and how these values are linked to well-being and health in general. Aside from expanding our knowledge about the values of non-timbers, this research contributes to expansion of a human ecology approach to non-timber valuation.

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[37] It is important to note that 2/3 of Moose Factory Island is not part of the reserve. Therefore, any individuals who live in hospital, school or Mocreebec housing are considered living off-reserve. Further, I am aware of a number of MCFN members who have chosen to live across the river in Moosonee.

Conclusions

The following examples of unintended consequences of industrial development around Aboriginal communities are numerous and underscore the importance of recognizing local values. In Oklahoma, members of the Cherokee Nation[38] were employed by Sequoyah Fuels a plant that processed uranium. The plant received citations for over 21,000 violations including ones related to health and safety before it closed in 1992 (Penna, 1992). Approximately 50% of the people living in the area have cancer (Penna, 1992). Former Grand Chief of the Cree Mathew Coon-Come called the James Bay hydroelectric dam project environmental racism (Thurston, 1991). The subsequent flooding resulted in the relocation of whole communities. In 1985, 47% of 1318 Cree tested had mercury levels higher than the standards of the World Health Organization and a further 10% had mercury poisoning (Lambert Colomeda, 1999). The results of the dams are far-reaching -- traditional fishing and hunting activities have disappeared. With the breakdown in family structure, frustration mounts, especially in young people. In 1990, there were suicides, attempted suicides, and drug overdoses. Health has changed (Lambert Colomeda, 1999, p. 127). The lands of the Mohawk Nation have been polluted by industries such as General Motors and Reynolds Metal dumping industrial waste such as PCBs in the St. Lawrence River. Pollutants such as benzopyrene, a carcinogen (Steingraber, 1997), have been added to toxic soup of the river. The result of this has been devastating to those living in or near the river. "Of 73 stranded whales which were autopsied in 1983, 15 had cancerous tumours somewhere in their bodies. No cases of cancer have been reported in belugas inhabiting less contaminated waters from the Arctic" (Steingraber, 1997, p. 133). Steingraber (1997) also notes that the incidence of breast cancer is increasing among members of the Mohawk. These examples highlight the harm that Aboriginal populations have suffered as a result of resource development.

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[38] Unemployment and poverty levels are two to three times higher for Aboriginals than non-Aboriginals (Kulshreshtha & Loewen, 1997; Lambert Colomeda, 1999).

At the time of writing, trees are being felled at the southern edge of the Moose Cree traditional territory. One participant stated that "it's hard to sleep sometimes with all these helicopters flying around looking for places to dig, rivers to dam and trees to cut. I wonder if it'll ever be quiet in the bush again". The most cost effective tree stands have been chosen by industry and planning is underway to bring the trees South. As the trees are being marked for removal, the MCFN is in the process of planning for their future and that of their grandchildren's grandchildren. Part of the future of the MCFN is ensuring that forest-based activities such as non-timber harvesting, hunting and spiritual experiences are possible. The Executive Director of the National Aboriginal Forestry Association, Harry Bombay (1996), states that the integration of traditional ecological knowledge "in forest management planning will… contribute to the spiritual, social and economic survival of Aboriginal peoples" (p. 22). This knowledge also has a role in ensuring the sustainability of forestry in Canada. The Moose Cree First Nation's participation in the forestry development process enhances their social and cultural capital by building on existing networks and creating new linkages, furthering the land claims process, and encouraging cultural and biological diversity.

This document underscores complexity of values and the centrality of the forest in lives of the Moose Cree First Nation. Beaver, geese and associated activities are part of health, social relations, the development of Moose Cree youth, links to the past and the future, and self-sufficiency. The health of individuals, cultures, economies and forests are entwined; the sustainability of northern Ontario forest development rests on nurturing the whole relationship the Moose Cree have with their environments.

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Appendix 1 Research Ethics Statement for *Non-Timber Forest Product Values of the Moose Cree*

I, Caroline E. Davis (Ph.D. Candidate, University of Alberta), promise to conduct this research in accordance with:

- the research ethics of the University of Alberta as reviewed and passed by the Human Ethics Research Board of the Faculty of Agriculture, Forestry and Home Economics (http://www.afhe.ualberta.ca/Faculty_and_Staff/EthicsReview/instructions.asp)
- the University of Alberta Standards for the protection of human research participants of the University Secretariat (http://www.ualberta.ca/~unisecr/policy/sec66.html)
- the "Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans" (http://www.nserc.ca/programs/ethics/english/policy.htm)
- Association of Canadian Universities for Northern Studies "Ethical Principles for the Conduct of Research in the North" (http://www.cyberus.ca/~acuns/EN/n_res_02.html)
- the standards of inquiry requested by the Moose Cree First Nation (referred to hereafter as MCFN) as long as they meet the ethical requirements of the above agencies and have been submitted to, reviewed and passed by the Human Ethics Research Board of the Faculty of Agriculture, Forestry and Home Economics

Further, the following principles will guide the research:

Fully Informed Consent

- In seeking fully informed consent, I will clearly identify the objectives of the research, methods of data collection, sponsors and sources of financial support.

Non-Participation

- This principle respects the right of individuals to non-participation in the study, and the right of individuals or groups to withdraw their participation at any point during the study at any time with no consequences.

On-going Consultation

- The researcher will be available throughout the period of study to answer any questions and discuss issues or concerns.

Confidentiality

- This principle recognizes that the community and individual participants, at their sole discretion, have the right to exclude from publication and/or to have kept confidential any information concerning their culture, traditions, mythologies, or spiritual beliefs.

Respect

- This principle recognizes the necessity for researcher to respect the integrity, morality, and spirituality of the culture, traditions, and relationships of the MCFN with the world, and where possible to avoid the imposition of external conceptions and standards. Local protocols will be followed with the guidance of community advisors.

Data

- Subject to requirements of confidentiality, copies of the documents that are produced and/or collected during my study will be housed with the Lands & Resources Secretariat of the MCFN.

Anonymity

- I cannot absolutely guarantee complete anonymity for individual participants because copies of the transcripts of individual participants will be housed with the MCFN. However, in all publications stemming from the research, names, other identifying and, or confidential information will not be used, unless specifically requested by the participants. Participants who are experts regarding specific NTFPs or holders of specialized knowledge have the right to decide whether they should be specifically credited with their information.

Publications

- Caroline E. Davis (referred to hereafter as C. Davis) will be given access to the original data for the purposes of academic analysis and publication.
- The Moose Cree First Nation acknowledges that C. Davis will require the results of the project, in whole or in part, to be included and published as part of her thesis. Copyright in the thesis shall belong to the C. Davis and the right of C. Davis to have the thesis examined is not inhibited.
- With respect to the principle of meaningful consultation, all manuscripts based on the data collected during the *"NTFP Values of the Moose Cree"* study pertaining to the MCFN or individual members will be submitted to the Lands & Resources Secretariat of the MCFN for review and comment. The manuscripts and comments will be returned to the author within a period of no more than three months.

Intellectual Property

- The ownership of Intellectual Property which exists prior to the commencement of the Project ("Pre-existing Intellectual Property") shall not be altered or transferred or assigned merely by virtue of its use by a party other than the owner (in the case of cultural property the owner refers to the MCFN and in the case of individual participants they will retain sole ownership of their intellectual property) in the Project.
- Intellectual Property created or developed in the course of the Project by C. Davis ("Project Intellectual Property") shall be owned by C. Davis.

Access to Project Data by Individuals/Groups

Other researchers and consultants involved with the Moose Cree First Nation may seek to access the interview data produced during the "NTFP Values of the Moose Cree" project. Interested individuals should pursue the following protocol to gain access to the aforementioned data.

- Obtain permission to gain access to the data from the MCFN. As of October 5, 2002, the appropriate contact person is Lillian Trapper, Lands & Resources Policy Analyst Coordinator (phone: 705 658-4619 ext. 226).
- Respect the confidentiality of the data. After obtaining permission from the MCFN, I recommend that all individuals wishing to use this data contact (if appropriate) individual participants to obtain their personal consent to use their interview data.
- Crediting. This data was collected by C. Davis. In accordance with academic protocol, I expect individuals to properly quote the origin of the data (i.e., Caroline E. Davis and the Moose Cree First Nation). In some cases, individual participants may prefer to be credited with the expertise they shared in their interviews and I recommend that researchers respect this preference.

Caroline E. Davis (Ph.D. Candidate, University of Alberta)	Chief Norm Hardisty Jr. (Moose Cree First Nation)

Photo 1
The preparation of beaver for a feast that was part of 'Gathering of Our People' (August, 2003).

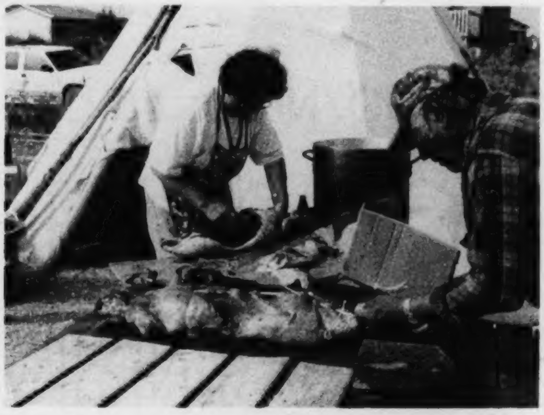

Photo 2
In this picture, women are preparing geese in a *shaptuwan* for the feast at the high school's cultural days. The geese are suspended by string from the tent braces and continuously twirled for *sikabon*. The roasting process requires approximately three hours and to pass the time women talk and tell stories while youth and children wander in and out of the tent.

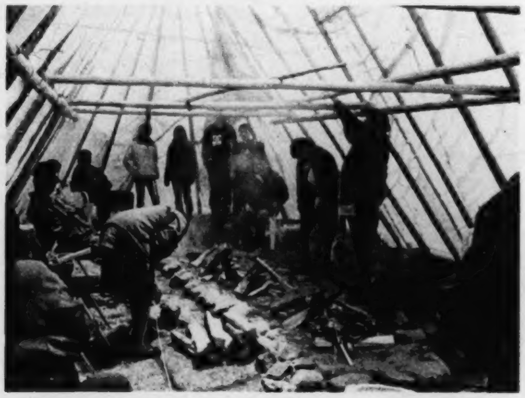

Photo 3
A Moose Cree trapper is showing youth how to prepare a beaver pelt. The hooded youth remarked "that's gross". The girl in the white hat responded that her grandfather had trapped beaver. The trapper told the girl he had known her grandfather and proceeded to tell the girl a story about her grandfather when he was trapping. By the end of the story, both of the girls were helping the trapper with his pelt.

Photo 4
In this picture, a trapper is removing a beaver trap from its location in the river. In the summer, this area would be completely under water. The beaver house is directly north of the site. The wooden pole beside the man was used to determine if the ice was strong enough to take our weight. In order to get to this trap, we left our snowmachines and walked five minutes on snowshoes.

Photo 5-7
Changing seasons. A view of the southern tip of Moose Factory Island taken across the Moose River in January, 2003 (5). A view across the Moose River of Charles Island in August, 2002 (6). The same view in May, 2004 of break-up (7).

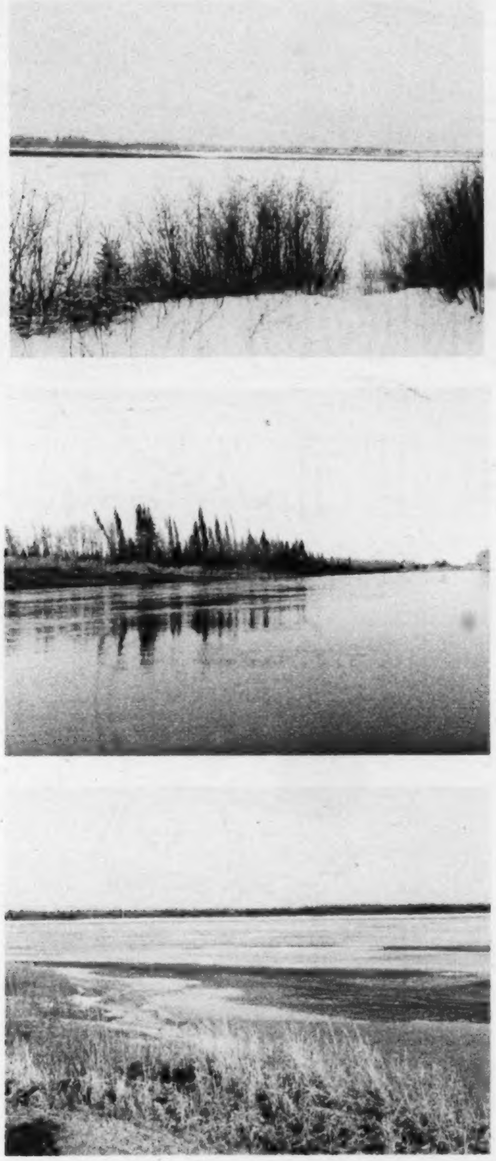

Photo 8
This picture was taken from a helicopter and shows a goose hunting camp on the coast of James Bay. The six tent frames in the centre of the picture belong to three brothers and their families. The two white lines from the tent frames to the bottom of the picture are paths leading to the shore of the Bay.

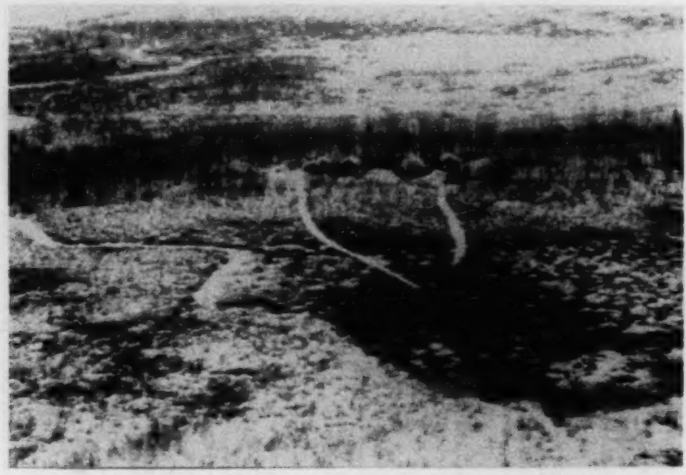

Photo 9
In July, 2003, ten youth who were taking part in a canoe trip boarded the train for the southern end of the Moose River. Excitement was evident in the community on the day that the youth were due to arrive in Moose Factory. Late in the day boats left Moose Factory to escort the canoe trip back to the island. At the shore, I was amazed to see so many community members despite the sleet and cold. As we were waiting for the canoes to arrive, an elder remarked that she felt like she was a child again. "In the summers, we used to run down to the shore to meet the canoes and see who was coming to stay for the summer. Now I get to wait here for my granddaughter".

Photo 10
A circle dance that took place during Aboriginal Days (June , 2003).

Photo 11
A youth carrying wood for the stove. This was the group's only source of heat in a winter camp on the south eastern coast of James Bay. The weather was usually -40°C at night and warmed to -30°C during the day.